









## **Section I.—Meteorology.**

No Remarks.

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## **Section II.—European Army.**

No Remarks.

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## **Section III.—Native Army.**

No Remarks.

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## **Section IV.—Jails.**

No Remarks.





READ—

The Report on the Sanitary Administration of the Province for the year 1897 by  
Brigade-Surgeon-Lieutenant-Colonel W. A. C. ROSE, Sanitary Commissioner of  
the Punjab.

REMARKS.—The year 1897 was on the whole a healthy one despite the prevalence of scarcity. With the exception of the outbreak of bubonic plague, which is noticed below, no disease of an unusual character prevailed. There was a diminution in the mortality from small-pox. The birth-rate, as noted below, maintained the high figure it has shown during the past few years. In accordance with the recent orders of the Government of India, as contained in its letter No. 379, dated the 24th of February 1898, details relating to towns and thanás have been omitted from Forms Nos. I and II, the totals for the districts only being given. Form No. VI, which formerly supplied information regarding the large Municipal towns only, has, in compliance with instructions from the same authority (Home Department letter No. 15, dated 8th January 1897), been enlarged so as to embrace all the Municipal towns in the Punjab, at present 151 in number. A new statement (No. XI) showing the chief sanitary defects in Municipal towns is also given as requested in the orders of the 24th of February 1898

2. *Births and Deaths.*—The number of births registered during the year 1897 was less by 10,069 than in the previous year, but the birth-rate amounted to 42·6 per 1,000 of population, which was again the highest birth-rate recorded in any Province in India—a circumstance attributed by the Sanitary Commissioner to the system recently introduced in the Punjab of checking the *chaukidárs'* memorandum books by the new Divisional Inspectors of Vaccination and by Vaccinators. The districts showing the highest birth-rates vary somewhat from year to year; nevertheless some districts maintain a fairly high standard continuously. The following list shows the order of merit of the best districts in this respect for five years :—

High birth-rates	1893.	1894	1895	1896.	1897.
1st	Gurgaon	<i>Gujránwála</i>	<i>Gujránwála</i>	<i>Gujránwála</i>	Jhang.
2nd	<i>Karnál</i>	Amritsar	Jhang	Ferozepore	<i>Gujránwála</i> .
3rd	Delhi	<i>Karnál</i>	Gurgaon	Jhang	<i>Karnál</i> .
4th	Rohtak	Gurgaon	Rohtak	Siálkot	Mooltan.
5th	Ludhiána	Siálkot	Ferozepore	Gurgaon	Ferozepore.

3. There is a much greater variation in districts showing the highest death-rates :—

High death-rates	1893.	1894.	1895.	1896.	1897.
Highest	Amritsar	Jullundur	<i>Umballa</i>	<i>Umballa</i>	Dera Ismail Khan.
2nd	Lahore	Amritsar	Delhi	<i>Karnál</i>	Hissar.
3rd	Gurdáspur	Gurdáspur	<i>Karnál</i>	Kangra	Muzaffargarh.
4th	Siálkot	<i>Umballa</i>	Kangra	Rawalpindi	Bannu.
5th	Ludhiána	Hoshiarpur	Rawalpindi	Delhi	<i>Karnál</i> .

*Umballa* here takes the lead as the unhealthiest district generally.

4. The death-rate in Hissar averaged about 30 for ten years past, but in 1897 it rose to 45. This is doubtless attributable to scarcity, though the Famine Report shows that only two deaths were directly due to starvation, and these doubtfully so. There was considerable mortality among children under 10 and persons of 50 and more. Taking the ratios per 1,000 of population, the figure in the case of children was 24 in Hissar as against 18 in the Province as a whole, in the case of old people 11.5 as against 6. The high birth-rates in Gujránwála and Jhang are probably due to the large immigration owing to the Chenab Canal which has taken place in these districts since the last census.

5. The probability of a healthy year being followed by one with a high birth-rate seems to be borne out when the figures for the whole Province are taken—thus 1892 was a very unhealthy year with a death-rate of 49.4. In 1893 the birth-rate fell to 34.9. The death-rate in 1893 was low, 28.13, and in 1894 the birth rate rose to 43.9. These are typical instances. For the past five years there has been no undue unhealthiness. The births as related to preceding death-rates were as follows :—

Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.
1892.	1893.	1894.	1894.	1894.	1895.	1895.	1896.	1896.	1897.
49.4	34.9	28.1	43.9	37.0	43.8	29.2	43.01	31.5	42.6

6. In respect to the matter of the infliction of fines for neglect to register births and deaths it is observed that there is still some variation in the amount of fine inflicted. The Lieutenant-Governor hopes that the effect of his remarks in paragraph 5 of the Review of the Report for 1896 (which were not published till July 12th, 1897) will be seen in the figures of fines for violations of registration bye-laws for the year 1898. It was not to be expected that they would influence the figures for 1897.

7. With reference to the remarks regarding the failure of Tahsildárs and Naib Tahsildárs to detect omissions in the registers of village chaukidárs, the Lieutenant-Governor in paragraph 7 of last year's Review observed that it would be interesting to know precisely what is meant by an omission and whether it is everywhere similarly understood. The object is to discover whether supervising officers on finding a single column in the register blank record this as an omission notwithstanding the fact that other particulars of the occurrence are furnished. The attention of the Sanitary Commissioner is drawn to last year's remarks on the subject.

8. *Chief diseases.*—The table in paragraph 30 shows that, with the exception of the increase in fever, the year as above noted was a healthy one. Even fever, which gave an average of 24.2 deaths in the previous ten years, reached only 20.5 in 1897.

9. *Plague.*—The epidemic of plague which broke out in the Nawashahr Tahsíl of Jullundur, and spread into the Garhshankar Tahsíl of Hoshiarpur in the cold weather of 1897, will receive separate consideration on a detailed report which is awaited from the local authorities. It is sufficient to say here that, though the source alleged in the Report on the Sanitary Administration as that from which the disease was introduced may be the true one, this is not certain, and it seems quite as probable that the Ráwals, who have a home in Khatkar Kalán and who are notorious wanderers, may have brought plague with them from Poona or Bombay. It may be added that the efficacy of the plan which was

adopted of arranging for the evacuation of the site of each village attacked was amply demonstrated, though it varied in degree according to the promptitude with which outbreaks were discovered and the remedial measures applied. The Lieutenant-Governor is not aware of the Sanitary Commissioner's reasons for thinking that two, or possibly three, villages were infected with plague before it was realized that the disease had made its appearance ; but the subject will be elsewhere discussed.

10. *Cholera*.—Hissar was the only district in which cholera of even mild importance was seen. Fortunately it did not spread as might have been expected in a famine area. Apparently its focus was Bhiwani, but there seems nothing to show how Bhiwani became affected.

11. *Small-pox*.—This year affords no marked exception to previous experience as to the way in which the disease works in the Punjab. Of the total deaths, 61 per cent. on an average occurred in the last five years among children between 1 and 12 years of age. In 1897 from a total of 6,077 deaths 8,549 were amongst children. The need for efficient vaccination of children seems clear from this state of things.

12. *Bowel complaints*.—The prevalence of bowel ailments in Hissar and in some other districts of the Delhi Division is what was to be expected ; they always are associated with famine.

13. As regards the general effect on the public health produced by the introduction of drainage and water-work schemes, it may be said that structural improvements under the head "Drainage" may in one place mean sewage schemes, in another only surface drainage, in another removal of water-logging, &c. Without details for each place it would be useless to attempt to draw any conclusions from the figures in this table regarding results from drainage ; but taking only places to which good water has been supplied one finds the following results, arranging the figures before and after the supply in neighbouring columns :—

	CHOLERA.		SMALL-POX.		FEVERS.		DYSENTERY, &c.	
	After water-supply.	Before.	After water-supply.	Before.	After water-supply.	Before.	After water-supply.	Before.
Delhi ...	0.06	0.42	1.22	0.59	21.24	26.72	1.68	1.94
Umballa ...	0.13	0.54	1.25	0.38	11.33	19.32	5.13	6.40
Lahore ...	0.58	1.87	0.91	1.55	19.81	27.79	1.50	2.26
Dalhousie ...	...	...	0.30	...	9.58	9.59	1.86	2.43
Rawalpindi ...	1.10	0.45	0.44	0.07	22.72	16.37	2.56	3.38
Murree ...	0.35	0.68	...	0.36	18.35	14.79	1.72	0.94
Kalka ...	0.46	1.70	0.07	0.18	16.64	15.24	2.45	3.88
Abbottabad ...	0.67	0.62	0.17	...	10.09	8.92	0.34	0.72
Haripur ...	0.30	4.04	3.30	0.24	14.10	17.28	0.70	2.32

From this it would seem that in all the diseases noted except small-pox (which is not a water-borne disease) there has been a diminished death-rate in the majority of instances since good drinking water has been supplied. It is, however, premature to make any positive statement. What is noteworthy is that in Delhi, Umballa and Lahore there has been decided improvement.



14. The following statement referred to by the Sanitary Commissioner in paragraph 57 of his Report as showing the death-rates from principal diseases in the town of Peshāwar before and after the completion of a drainage and water-supply did not accompany the Report, but has been received since :—

	DATE OF COMPLETION OF WORKS OF		AVERAGE ANNUAL DEATH-RATE SINCE THE COMPLETION OF THE WATER-SUPPLY.				AVERAGE ANNUAL DEATH-RATE AFTER THE COMPLETION OF THE DRAINAGE, BUT BEFORE THE COMPLETION OF THE WATER-SUPPLY.				AVERAGE ANNUAL DEATH-RATES FOR THE FIVE YEARS PRECEDING THE COMPLETION OF DRAINAGE			
	Drainage	Water-supply.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.
Peshāwar City	1888	1892	0.76	1.89	22.37	1.31	1.40	1.90	22.57	1.65	1.38	4.19	19.26	1.91

From these statistics it will be seen that there has been improvement in the public health except in the matter of "fever," in which there has apparently been an increase.

Paragraph 67.

15. With reference to the endeavours that have been made to combat the annually mortality from fever by bringing quinine within the reach of the population and especially of those living at places far distant from our dispensaries, by (a) free distribution, (b) postal agency, it may be noted that in the autumn of 1894 His Honor the Lieutenant-Governor (Sir Dennis Fitzpatrick) sanctioned as an experimental measure a scheme put forward by the Inspector-General of Civil Hospitals for the sale of quinine through Postal agency to the people of the plains districts of the Delhi Division. The scheme was based on lines that had been reported to be successful in Bengal, *i.e.*, the consumer was to pay Re. 1-9-6 for a packet of 102 powders of five grains each, of which Re. 1-8-0 was to be payable to Government, and 1 anna 6 pies to be retained by the postal vendor as commission. The experiment failed; the consensus of opinion by those having the best knowledge on the subject being that the scheme had been unduly handicapped by having had to contend, side by side, with a separate scheme under which a free distribution of the drug was made by Government agency, such as Lambardárs, Zaildárs, Vaccinators, &c., &c., and that if it was ever to be a success the gratuitous distribution of quinine should be put a stop to except in the case of patients attending the dispensaries where the dispensing of the drug gratis, or upon payment, should be exactly the same as in the case of other drugs. On the other hand, it was felt that a too rigid adherence to any such rule might prevent the drug reaching the really indigent living at a distance from the dispensaries. Sir Mackworth Young is, however, very unwilling that the experiment of placing quinine within easy reach of the people by sale through Postal agency should be abandoned without further trial, and a new scheme is therefore in course of preparation under which the free distribution outside dispensaries, particularly in the most unhealthy tracts, will not be altogether stopped, but the system be so regulated, and in some cases be perhaps stopped altogether, so as to give sale through the Post Offices a fairer trial. The scheme when matured will be tried again in the plains districts of the Delhi Division and also in the Lahore Division.

16. With regard to the matter of encouragement of village sanitation, it may be noted that in the month of December 1897 a Circular was issued to the Commissioners and Superintendents of the Cis-Indus Divisions pointing out that the original proposal of the Sanitary Board was not for the reward of individuals with khillats, but for the reward of entire village communities. His Honor expressed an opinion that a scheme of the kind by which the native energy of villages would be called out and all villages would have an inducement to improve their sanitation might produce encouraging results, and he accordingly desired that the experiment should be tried of a District Board offering to pay a considerable fraction of the revenue demand of the one village in each tahsíl which showed the best results during the current year (1898), the adjudicators being the Deputy Commissioner and the Civil Surgeon aided by one or two native officials. The Lieutenant-Governor will be glad if the Sanitary Commissioner will bear in mind that a full report of the action taken and its results is to be submitted as early in the year 1899 as possible. The Sanitary Commissioner should arrange for the submission of this report and for brief mention of the subject in his Sanitary Report for this year.

17. The thanks of the Lieutenant-Governor are due to Brigade-Surgeon-Lieutenant-Colonel Crawford Roe for this Report and for his work during the year.

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ORDER.—Ordered, that a copy of the foregoing Remarks be circulated with the Report and forwarded with the usual number of copies of the Report to the Government of India; also that the Review be published in the *Punjab Government Gazette*.

Ordered also, that a copy be forwarded to the Sanitary Commissioner, Punjab, for information and guidance in regard to the points indicated.

By order of the Hon'ble the Lieutenant-Governor,

H. J. MAYNARD,

*Junior Secretary to Government, Punjab.*



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## Section V.—Vital Statistics.

### BIRTHS.

There were 874,623 births registered in the Province during the year 1897, a smaller number than for 1896 by 10,069. The birth-rate per *mille* of population in 1897 amounted to 42·6, somewhat lower than that registered during the three previous years, but higher than the mean birth-rate of the past ten years (1887 to 1896) by 3·3.

Birth-rate of the Province slightly lower than the three previous years.

Punjab birth-rate higher than that of other Provinces of India.

2. In the subjoined table the birth-rate of the Punjab is contrasted with the rates recorded in other parts of India during the year 1897 :—

				<i>Birth-rate per mille.</i>					<i>Birth-rate per mille.</i>
Bengal	...	...	...	36·94	Central Provinces	...	...	...	26·66
Assam	...	...	...	32·58	Madras	...	...	...	28·7
North-Western Provinces and Oudh	...	...	...	31·10	Bombay	...	...	...	33·46
					Punjab	...	...	...	42·6

As was the case last year, the Punjab again shows the highest birth-rate when compared with the birth-rates registered in other Provinces of India. This may in part be attributed to the system introduced during the past three years of checking omissions in the chowkidars' memorandum books through the agency of the Vaccinators and Divisional Inspectors.

3. Annual Form No. I indicates the districts which recorded the highest and lowest birth-rates: the highest were Jhang 57·5 per 1,000, Gujránwála 53·2, Karnál 49·6, Mooltan 48·5, Ferozepore 47·8, Siálkot 47·8, Amritsar 47·4, Muzaffargarh 47·2, Gurgáon 46·8, Ludhiána 46·6 and Delhi 46·2; the lowest were Simla 19·3, Pesháwar 30·5, Kángra 30·3, Hazára 31·4. In the remaining 16 districts the rates varied between 33·9 and 45·9 per 1,000.

Districts in which high and low birth-rates were registered.

4. Compared with the previous year, there was a very considerable falling off in the number of births registered in the districts of Hissár, Jhelum and Gujrát, particularly in the first-named district, in which the rate fell from 45·4 in 1896 to 33·9 in 1897; in Jhelum and Gujrát the birth-rates in 1897 were 36·5 and 35·7, or 5·1 and 4·6 less than in the preceding year. The low birth-rates in these three districts appear to have been due to the prevalence of scarcity and the emigration of a large portion of the population to other parts of the Province. In the districts of Jhang and Muzaffargarh, on the contrary, the birth-rates rose in 1897 to 57·5 and 47·2 per 1,000, from 49·8 and 40·3, respectively, in 1896. This increase is, on the other hand, due partly to immigration from famine-stricken districts.

Causes of low and high birth-rates in certain districts.

5. On reference to the figures noted in the table below, it will be seen that, as noticed in my last Annual Sanitary Report, there has been of late years a marked improvement in the registration of births in the frontier districts of Kohát, Bannu, Dera Ismail Khan, Dera Gházi Khan and Muzaffargarh, but not so marked in the districts of Hazára and Pesháwar. In Hazára the rate is much lower than it was in 1894 and 1895, and the rate in Pesháwar is only 30·5; but, on the whole, there has been in Pesháwar a steady improvement during the past four years in this

Registration in frontier districts.

respect as compared with the mean birth-rate for the five years ending 1893 :—

Districts.	Mean birth-rate for the five-year period ending 1893.	Birth-rate for 1894.	Birth-rate for 1895.	Birth-rate for 1896.	Birth-rate for 1897.
Hazára ... ..	27·0	37·1	35·8	33·9	31·4
Pesháwar ... ..	18·0	24·4	29·2	30·0	30·5
Kohát ... ..	25·9	40·4	42·0	39·5	41·2
Bannu ... ..	27·2	39·6	44·2	39·6	44·1
Dera Ismail Khan ...	28·8	44·5	42·7	42·0	41·7
Dera Gházi Khan ...	22·9	34·8	35·7	39·7	40·2
Muzaffargarh ... ..	30·8	35·4	39·0	40·3	47·2

There is room for considerable improvement in Hazára and Pesháwar, as the birth-rates of these two, when compared with those recorded in some of the neighbouring frontier districts, show that at least one-third of the number of births that actually occur in them are omitted to be registered. I trust, however, that the persevering efforts of the Divisional Inspector and the Vaccinators will result in greater improvement in the next and subsequent years.

6. The following statement shows the particular rural circles in which the registration of births was most defective in 1897 :—

				Male birth-rate.	Female birth-rate.	Total birth-rate.	Number of males born to every 100 females born.
PESHAWAR DISTRICT.							
Shankargarh Rural Circle	...	...	...	10·1	7·3	17·4	138·4
Chársadda do.	...	...	...	13·3	9·7	23·0	136·8
Swábi do.	...	...	...	13·9	9·3	23·2	141·0
Rajjar do.	...	...	...	15·7	8·3	24·0	189·3
Nowshera do.	...	...	...	14·7	10·2	24·9	143·5
Pesháwar do.	...	...	...	13·7	11·4	25·1	120·1
Katlang do.	...	...	...	15·2	10·0	25·2	152·5
Mardán do.	...	...	...	14·0	12·2	26·1	114·5
HAZARA DISTRICT.							
Shinkhari Rural Circle	...	...	...	8·0	7·1	15·1	113·8
Balakot do.	...	...	...	8·0	6·9	14·9	114·9

In almost all the rural circles in the districts of Pesháwar and Hazára, the registration of female births is more or less neglected. I have directed the particular attention of the Divisional Inspectors to the extremely imperfect state of registration in these thánás, as well as in those of other districts in which the birth-rate is comparatively very low. From the reports submitted to me weekly by the Divisional Inspectors it would appear that the villagers are not so much to blame for omitting to register births as the chowkidárs. These officials, being illiterate, trust usually to their memories, and having many other duties to perform frequently forget to register the births as they occur.

7. The proportion of male to female births in the Province was almost precisely the same as in the previous year, *i.e.*, 22·3 and 20·2, respectively, in 1897 against 22·6 and 20·5 per *mille* in 1896. For every 100 births of females there were 110·5 male births, the corresponding rate in the previous year being 110·1.

8. The highest birth-rates were registered in the following municipal towns :—Dera Ismail Khan 67·4, Jalálpur, in Mooltan district, 66·4, Kunja, in Gujráat district, 60·1, Chúnian, in Lahore district, 59·5; Sáhiwál, in Shahpur district, 58·7, Siálkot 56·0, Khairpur and Alipur, in Muzaffargarh district, 54·0 and 53·7, respectively, Edwardesabad 53·8, Khudián, in Lahore district, 52·7, Wazirabad 51·8, Maghiána 51·4, Jhang 50·4, Chinót 50·3, Talamba, in Mooltan district, 50·1.

9. The lowest rates were recorded in Kuláchi in Dera Ismail Khan district 17·8, Abbottabad 19·6, Anandpur, in Hoshiárpur district, 20·0, Simla 20·3, Rájanpur, in Dera Gházi Khan district, 20·9, Dalhousie 22·5, Kángra 24·8, Montgomery 25·0. In all these towns, with one or two exceptions, the low rate is due to the great preponderance of the male over the female population.

10. There was an excess of 236,396 births over deaths registered in 1897, or at the rate of 11·5 per 1,000 of population. The death-rate, however, exceeded the birth-rate in three districts, *viz.*, Hissár (11·4), Dera Ismail Khan (8·5), and Simla (2·6).

In the following districts the excess of births over deaths was considerably above the provincial average: Gujránwála 25·3 per *mille*, Siálkot 22·9, Jullundur 19·7, Amritsar 19·1, Gurdáspur 19·0, Lahore 18·2, Montgomery 17·1, Jhang 17·1, Ferozepore 16·1, Mooltan 15·0.

### DEATHS.

11. In spite of the prevalence of scarcity during the year, the Province was, with the exception of a few districts, very healthy: the death-rate being 31·05 as compared with 31·53 in 1896 and 29·29 in 1895.

12. The death-rates registered from the principal diseases in 1897, and the two preceding years are shown in the margin. The most noticeable feature of the year was the marked diminution in the mortality from small-pox which caused 45,084 deaths in 1896, and in the year under report only 16,077.

	1895.	1896.	1897.
Cholera ... ..	0·03	0·25	0·03
Small-pox ... ..	0·41	2·19	0·78
Fevers ... ..	19·08	19·15	20·57
Dysentery and diarrhoea	0·76	0·68	0·77
Injuries ... ..	0·33	0·35	0·35
Other causes ... ..	8·69	8·92	8·54

13. In the following table the death-rate of the Punjab is compared with the rates in other Provinces recorded during the year 1897:—

	Death-rate per mille.		Death-rate per mille.
Bengal ... ..	32·94	Central Provinces ... ..	63·34
Assam ... ..	50·61	Madras ... ..	25·4
North-Western Provinces and Oudh	40·46	Bombay ... ..	39·84
		Punjab ... ..	31·05

14. Dera Ismail Khan was the most unhealthy district in the Province in 1897. It had a death-rate of 50·18 per 1,000 of population. In the following districts also the rates of mortality were very high:—Hissár 45·31, Muzaffargarh 44·25, Bannu 43·03, Karnál 40·83, Jhang 40·37, Gurgáon 37·36.

The following table will give an idea of the excessive death-rates registered in these districts during the month in which sickness attained its maximum intensity:—

DISTRICTS.	MINIMUM DEATH-RATE FROM ALL CAUSES.			MAXIMUM DEATH-RATE FROM ALL CAUSES.		
	Month.	Number of deaths registered.	Death-rate per 1,000 per annum.	Month.	Number of deaths registered.	Death-rate per 1,000 per annum.
Dera Ismail Khan	August ...	697	17	November	6,164	155
Muzaffargarh ... ..	Do. ... ..	563	17	Do. ... ..	4,294	137
Jhang ... ..	February ...	700	21	Do. ... ..	3,988	111
Bannu ... ..	August ... ..	575	18	Do. ... ..	2,911	96
Hissár ... ..	February ...	1,244	21	October ...	6,044	92
Karnál ... ..	Do. ... ..	1,146	22	Do. ... ..	5,069	87
Gurgáon ... ..	Do. ... ..	953	19	Do. ... ..	4,967	87

15. The usual statement showing the death-rates registered in each district of the Province from 1887 to 1897 is given below :—

Districts.	1887.	1888	1889	1890.	1891	1892	1893	1894.	1895.	1896	Average rate per 1,000.	1897.
Hissár ... ..	36	22	22	35	24	49	25	27	28	33	30	45
Rohtak ... ..	45	28	26	36	28	37	22	30	29	35	32	33
Gurgáon ... ..	62	38	36	42	31	41	27	32	29	35	37	37
Delhi ... ..	62	42	39	47	42	51	30	41	37	36	43	33
Karnál ... ..	51	34	32	49	33	48	29	47	37	40	40	41
Umballa ... ..	36	26	25	41	32	50	29	49	43	41	37	30
Simla ... ..	19	18	19	25	23	23	23	26	28	28	23	22
Kángra ... ..	32	30	29	39	30	42	24	31	34	40	33	29
Hoshiárpur ... ..	32	28	30	43	27	43	29	49	32	32	35	25
Jullundur ... ..	30	31	34	40	25	44	31	56	31	30	35	26
Ludhiána ... ..	35	30	30	41	26	48	31	41	32	34	35	35
Ferozepore ... ..	39	39	37	43	24	47	27	31	26	32	35	32
Mooltan ... ..	27	27	32	35	30	56	29	29	31	26	32	34
Jhang ... ..	19	26	25	35	29	50	27	25	23	30	29	40
Montgomery ... ..	21	24	33	35	24	58	29	27	22	24	30	23
Lahore ... ..	34	32	37	50	30	52	35	38	27	31	37	27
Amritsar ... ..	39	35	35	54	32	55	37	54	32	30	40	28
Gurdáspur ... ..	44	35	33	66	33	63	33	51	31	29	42	25
Siálkot ... ..	38	28	33	102	34	62	31	42	29	27	43	25
Gujrát ... ..	29	29	31	79	29	43	22	29	22	23	34	22
Gujránwála ... ..	32	36	40	86	32	49	30	36	29	30	40	28
Shahpur ... ..	24	38	26	33	25	57	26	23	20	28	30	32
Jhelum ... ..	27	32	42	44	30	53	25	31	25	28	34	32
Rawalpindi ... ..	27	23	40	42	30	45	27	32	33	40	34	33
Hazára ... ..	21	20	23	28	20	41	20	23	24	33	25	23
Pesháwar ... ..	21	18	21	22	27	41	21	22	22	30	25	23
Kohát ... ..	38	30	28	31	32	54	28	32	30	30	33	34
Bannu ... ..	28	27	36	31	26	67	23	24	25	31	32	43
Dera Ismail Khan ... ..	21	26	29	29	30	55	28	28	26	27	30	50
Dera Gházi Khan ... ..	15	18	17	18	24	38	22	23	24	23	22	36
Muzaffargarh ... ..	26	27	28	31	28	45	26	27	26	24	29	44
Mean for the Province ..	34	30	32	47	29	49	28	37	29	32	35	31

It will be seen from the above table that in the districts of Dera Ismail Khan, Hissár, Muzaffargarh, Dera Gházi Khan, Jhang and Bannu the death-rate in 1897 was considerably above the average for the preceding ten years, the increase varying from 11 to 20 per *mille*; in Siálkot, Gurdáspur, Amritsar, Gujrát, Gujránwála, Delhi, Hoshiárpur, Lahore, Jullundur, Umballa and Montgomery the death-rate in 1897 was from 7 to 18 per 1,000 below the average; and in the remaining 14 districts the ratio was very nearly equal to the average of the ten-year period.

Alteration of Annual Form  
No. VI.

16. In accordance with the orders of the Government of India all the municipal towns in the Punjab are entered in Annual Form No. VI B, instead of only the 45 principal towns, the total number being 151.

The high and low death-rates of some of the towns.

17. It will be seen on reference to that statement that in 14 towns a death-rate of over 50 per 1,000 was registered, the rates being excessively high in the following :—

			Death-rate per 1,000.
HISSAR	{	Hissár ... ..	67.34
		Bhiwáni ... ..	56.70
		Sirsa ... ..	64.09
		Fatehabad ... ..	69.87
MOOLTAN	{	Jalálpur ... ..	51.49
RAWALPINDI	{	Attock ... ..	54.63
BANNU	{	Edwardesabad ... ..	51.68
		Lakki ... ..	55.26
DERA ISMAIL KHAN	{	Dera Ismail Khan ... ..	75.28
		Bhakkar ... ..	74.86
		Karor ... ..	78.36
DERA GHAZI KHAN	{	Dajal ... ..	52.26
MUZAFFARGARH	{	Alipar ... ..	57.99
		Khairpur ... ..	96.12

The death-rates in the following towns, when compared with the average rate of mortality registered in all municipal towns, were very low; the attention of the district authorities has been drawn to the matter, as it is almost certain that imperfect registration was the chief cause of such low rates:—

<i>Districts.</i>		<i>Towns.</i>				<i>Death-rate.</i>
UMBALLA...	...	Thánesar	...	...	...	18·33
Do. ...	...	Shahabad	...	...	...	20·92
Do. ...	...	Sadhaura	...	...	...	20·58
Do. ...	...	Rúpar	...	...	...	20·71
HOSHIARPUR	...	Gardhiwála	...	...	...	20·02
Do. ...	...	Miáni	...	...	...	15·79
JULLUNDUR	...	Kartárpur	...	...	...	20·69
MONTGOMERY	...	Montgomery	...	...	...	15·12
GURDASPUR	...	Srígobindpur	...	...	...	20·83
SIALKOT ...	...	Daska	...	...	...	18·48
Do. ...	...	Nárowál	...	...	...	20·42
HAZARA ...	...	Abbottabad	...	...	...	12·93

18. With regard to the proportion between the urban and rural death-

Death-rates in urban and rural areas.

	URBAN.	RURAL.
	<i>Death-rate.</i>	<i>Death-rate.</i>
Cholera . . . . .	0·13	0·02
Small-pox . . . . .	0·57	0·81
Fevers . . . . .	18·43	20·80
Dysentery and Diarrhoea . . . . .	2·52	0·58
Injuries . . . . .	0·37	0·35
All other causes . . . . .	12·43	8·12

rates, the results are very nearly the same as those obtained in previous years. The figures noted in the margin show a larger death-rate from dysentery and diarrhoea and all other causes in the towns than in the rural circles and a smaller death-rate in the towns under the head of fevers. The rural death-rate from small-pox is, this year, somewhat higher than the urban.

19. Of the 638,227 deaths registered from all causes in the Punjab

Deaths by sex.

females per 1,000.

during the year, 326,924 were males and 311,303 females, equal to a death-rate of 29·62 for males and 32·71 for

20. The highest rates were registered amongst infants under one year

Mortality in different age-periods.

of age, *viz.*, 223 for males and 228 for females per 1,000 living. This means that very nearly one-fourth of the children died from different diseases in the first year of life. Amongst children aged from one to five years the death-rates registered during the year were 58·42 for males and 66·76 for females. In the specified age-periods between 5 and 40 years the rate varied from 7 to 14 per 1,000 living, the ratio being, as usual, larger amongst the female population. Between 40 and 60 years the death-rate per 1,000 living ranged from 17 to 29, the male ratio preponderating over the female. Amongst old people of the ages of 60 years and upwards, the death-rate was 89·69 for males and 91·74 for females. Amongst infants under one year, in the districts of Jullundur and Amritsar the female death-rate, as usual, largely exceeded the male.

21. On reference to Annual Form No. V it will be seen that the death-

Deaths according to classes.

rates registered amongst the different classes of population were as follows:—Muhammadans 31·24, Hindús 30·78, and Native Christians 17·25 as compared with 30·51, 32·82, and 17·31, respectively, in the previous year.

22. There are six districts in which the Native Christian population

Registration among native Christians.

exceeds 500, and the following table contrasts the death-rates registered in these districts during the last three years:—

			<i>Population.</i>		<i>Death-rates.</i>		
					1895.	1896.	1897.
Siálkot	...	...	9,482	...	11·92	15·82	12·55
Gurdáspur	...	...	2,069	...	20·78	22·23	19·82
Gujránwála	...	...	2,246	...	9·80	10·69	9·80
Lahore	...	...	1,254	...	9·57	15·15	19·94
Amritsar	...	...	959	...	20·86	34·41	34·41
Delhi	...	...	812	...	35·71	17·24	33·25



The average death-rate amongst all classes of people being 31 per 1,000 it is evident that registration is extremely defective amongst the Native Christians in the first four districts given in the table, particularly in Gujranwála and Siálkot. The attention of the district authorities has been often invited to the imperfect state of registration amongst this class of population. But from some cause or another, Native Christians neglect to have the domestic occurrences in their families registered.

23. The birth and death returns of Cantonments given in Annual Form No. VI B show no improvement in 1897. The birth-rate for the 28 Cantonments, taken as a whole, was 10 and the death-rate 13 per *mille*. Ráwalpindi and Pesháwar, with a large population, show a birth-rate of 4, Kohát a birth-rate of only 1 per *mille*; Dera Ismail Khan 2, Mardán 5, Abbottabad 7, Jullundur and Nowshera 8 each. Abbottabad had a death-rate of 6 per *mille*, Mardán and Ráwalpindi 7, Siálkot, Pesháwar and Dera Ismail Khan 8, Jhelum 9. These rates are ridiculous, but it seems almost impossible to improve matters. The attention of the Cantonment authorities has been drawn for several years to this point, and it would appear that these imperfect results are due, to some extent, to the population of Cantonments being constantly shifting, and also to the male population being in excess of the female.

24. Amongst the European and Eurasian population there were 120 births and 76 deaths registered during the year, a birth-rate of 14·39 and a death-rate of 9·11 per *mille* against 17·62 and 9·23 in the preceding year. These figures call for no special remarks.

The births and deaths registered amongst the European and Eurasian population.

25. The subjoined table shows the number of persons fined and the amount of fine inflicted for neglect to register births and deaths in municipal towns:—

*Statement showing the working of the Municipal Bye-Law regarding the registration of Births and Deaths for the year 1897.*

DISTRICT.	Name of Municipal town.	Number of persons fined for neglecting to register births.	Number of persons fined for neglecting to register deaths.	Aggregate of fines inflicted.
				Rs. A. P.
Rohtak ...	Gohána ...	...	1	0 4 0
Gurgáon ...	Palwal ...	2	...	1 0 0
	Hodal ...	...	1	0 8 0
Delhi ...	Delhi ...	6	4	2 6 0
	Sonepat ...	...	2	0 12 0
Karnál ...	Kaithal ...	8	...	3 2 0
Umballa ...	Rúpar ...	1	2	2 8 0
Kángra ...	Kángra ...	1	...	1 0 0
Hoshiárpur ...	Mukerían ...	1	...	0 2 0
	Dasúya ...	1	1	2 8 0
Ludhiána ...	Jagráon ...	5	1	3 0 0
	Ráikot ...	1	1	2 0 0
Mooltan ...	Mooltan ...	1	...	0 8 0
	Tulamba ...	1	1	2 0 0
Jhang ...	Maghiána ...	1	...	2 0 0
Montgomery ...	Pákpattan ...	1	2	7 0 0
Siálkot ...	Siálkot ...	...	2	2 8 0
Ráwalpindi ...	Attock ...	...	1	4 0 0
Pesháwar ...	Pesháwar ...	1	2	3 0 0
Bannu ...	Lukki ...	1	...	0 4 0
	Isa Khel ...	1	...	2 0 0
Dera Gházi Khan ...	D. G. Khan ...	1	...	1 0 0
	Mithankot ...	4	...	1 0 0
	Total ...	38	21	44 6 0

There are 151 municipal towns in the Punjab, and in 128 of these, not a single person was fined for breach of the municipal bye-laws. In some of the towns the amount of fine imposed was high, the directions of His Honor the Lieutenant-Governor given in paragraph 5 of his Review on the Sanitary Report for 1896, *viz.*, that a small fine of 2 or 3 annas in cases where the offenders are very poor and ignorant would be quite sufficient, having apparently been overlooked.

26. Every possible effort has been made during the year to improve the registration of births and deaths. I have devoted my attention to this matter for some years past, and I find that there is only one way of achieving accuracy and that is "proper supervision" of the chowkidárs' memo. books of births and deaths. The agencies through which the accuracy of registration is tested, are the Vaccinators, the Tahsildárs and Náib-Tahsildárs and Divisional Inspectors.

Result of inspections  
by Tahsildárs and Náib-  
Tahsildárs.

27. The annexed statement shows the amount of work done by Tahsildárs and Náib-Tahsildárs during the year under report:—

*Statement showing the Results of Inspections of Birth and Death Registers by Tahsildárs and Náib-Tahsildárs in the Districts of the Punjab during the year 1897.*

No.	DISTRICTS.	Number of villages inspected.	Number of entries of births and deaths checked.*	Omissions discovered.		Omissions of deaths of female infants.	Number of Chowkidárs fined.	Amount of fines inflicted.		
				Births.	Deaths.					
								Rs.	a.	p.
1	Hissar ... ..	52	...	3	5	...	11	4	3	0
2	Rohtak ... ..	603	15,205	5	100	77	62	7	10	6
3	Gurgáon ... ..	361	...	18	13	...	6	4	0	0
4	Delhi ... ..	147	155	20	28	16	18	2	10	0
5	Karnál ... ..	543	...	29	32	...	...	...	...	...
6	Umballa ... ..	501	...	52	28	...	15	2	7	0
7	Simla ... ..	39	...	...	2	...	...	...	...	...
8	Kángra ... ..	1,271	7,181	115	78	12	89	66	9	9
9	Hoshiárpur ... ..	1,925	16,654	378	309	19	97	30	8	0
10	Jullundur ... ..	389	...	77	110	1	6	1	14	0
11	Ludhiána ... ..	643	2,173	41	41	...	17	7	13	0
12	Ferozepore ... ..	371	345	39	14	5	2	1	4	0
13	Mooltan ... ..	590	...	14	8	...	...	...	...	...
14	Jhang ... ..	480	...	34	18	...	...	...	...	...
15	Montgomery ... ..	163	506	24	17	15	6	8	4	0
16	Lahore ... ..	518	...	...	...	...	...	...	...	...
17	Amritsar ... ..	205	...	5	11	...	2	0	4	0
18	Gurdáspur ... ..	543	...	3	3	...	...	...	...	...
19	Siálkot ... ..	979	...	1	...	...	5	4	0	0
20	Gujráat ... ..	996	...	...	...	...	2	0	2	0
21	Gujránwála ... ..	273	...	2	1	...	1	0	8	0
22	Shahpur ... ..	126	...	60	...	...	...	...	...	...
23	Jhelum ... ..	266	...	74	47	...	4	0	14	0
24	Ráwalpindi ... ..	1,071	...	205	198	34	3	0	4	0
25	Hazára ... ..	546	2,947	115	128	66	87	47	1	0
26	Pesháwar ... ..	155	...	10	5	...	15	15	0	0
27	Kohát ... ..	175	821	26	10	10	15	6	8	0
28	Bannu ... ..	516	...	142	153	120	4	2	8	0
29	Dera Ismail Khan ... ..	521	8,338	186	219	74	16	12	4	0
30	Dera Gházi Khan ... ..	377	...	48	31	...	1	0	4	0
31	Muzaffargarh ... ..	217	...	54	11	...	4	3	4	0
	Total ... ..	15,562	...	1,725	1,620	449	488	230	0	3

\* In many of the districts this information is not given.

A glance at the above return will show that, although the Tahsildárs and Náib-Tahsildárs visited a large number of villages during the year to inspect birth and death registers, their work in this respect was far from satisfactory. For instance, in the districts of Gujráat and Lahore they inspected 1,514 villages, but did not discover a single omission in either birth or death. In the Siálkot district in 979 villages inspected only one

omission (a birth) was detected. Altogether 15,562 villages were visited by this class of officials and 1,725 omissions of births and 1,620 of deaths were discovered; the corresponding figures for 1896 were 15,111 villages inspected and 2,089 omissions of births and 1,202 of deaths discovered. Of the 1,620 omissions of deaths 449 were of female infants, the largest number being recorded in the districts of Bannu, Dera Ismail Khan, Rohtak and Hazára. The number of chowkidárs fined for neglecting to register births and deaths was 483, and the fines inflicted amounted to Rs. 230. The districts in which a large number of chowkidárs were punished were Hoshiárpur, Kángra and Hazára.

28. The number of villages visited by the Vaccinators, the number of entries checked and the number of births and deaths found omitted from the registers by them in each district of the Punjab is shown in the statement below :—

No.	DISTRICTS.	Number of villages inspected.	BIRTHS.				DEATHS.			
			Number of Entries checked.		Number of omissions discovered.		Number of Entries checked.		Number of omissions discovered.	
			Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Hissár ... ..	384	7,761	5,278	85	92	6,408	4,940	32	39
2	Rohtak ... ..	372	9,216	7,948	146	135	6,698	5,584	51	75
3	Gurgáon ... ..	1,952	19,164	16,647	234	285	11,076	10,357	98	72
4	Delhi ... ..	258	Not stated.	...	62	58	Not stated.	...	40	42
5	Karnál ... ..	1,256	13,892	12,379	69	95	9,243	8,624	33	36
6	Umballa ... ..	812	8,814	6,613	107	99	6,262	6,241	46	48
7	Simla ... ..	3	...	...	...	...	...	...	...	...
8	Kángra ... ..	293	Not stated.	...	64	50	Not stated.	...	35	16
9	Hoshiárpur ... ..	1,487	9,582	8,706	263	163	5,430	3,862	58	57
10	Jullundur ... ..	523	6,853	5,843	32	50	3,175	3,225	8	16
11	Ludhiána ... ..	1,542	25,559	21,460	34	23	15,136	13,382	7	16
12	Ferozepore ... ..	348	4,152	3,341	108	92	2,597	2,132	25	25
13	Mooltan ... ..	1,063	11,988	9,020	234	269	6,152	4,695	54	54
14	Jhang ... ..	1,813	13,196	10,723	216	221	6,914	6,752	102	61
15	Montgomery ... ..	1,683	11,409	9,809	92	67	6,564	5,610	14	18
16	Lahore ... ..	2,087	33,469	29,010	351	238	22,076	19,640	10	23
17	Amritsar ... ..	1,754	Not stated.	...	323	260	Not stated.	...	36	43
18	Gurdáspur ... ..	2,827	22,661	19,883	86	92	12,994	11,792	5	7
19	Siálkot ... ..	963	879	708	213	111	708	309	33	25
20	Gujrát ... ..	1,754	12,092	8,869	327	339	5,022	3,869	57	69
21	Gujránwála ... ..	2,100	17,161	13,770	409	404	4,181	3,319	67	48
22	Shahpur ... ..	623	2,120	1,769	280	247	686	603	103	90
23	Jhelum ... ..	789	Not stated.	...	166	147	Not stated.	...	37	34
24	Ráwalpindi ... ..	2,754	11,688	10,499	62	49	9,127	9,298	6	19
25	Hazára ... ..	362	1,855	1,688	139	130	650	533	20	4
26	Pesháwar ... ..	262	Not stated.	...	367	272	Not stated.	...	123	54
27	Kohát ... ..	622	4,401	3,611	99	84	2,619	2,301	9	15
28	Bannu ... ..	254	4,138	3,243	372	412	1,203	993	41	46
29	Dera Ismail Khan ... ..	585	9,373	7,915	298	253	9,451	4,524	106	105
30	Dera Gházi Khan ... ..	281	4,360	3,308	483	437	1,730	2,229	142	168
31	Muzaffargarh ... ..	181	772	748	123	97	300	279	43	46
Total ... ..		31,987	266,555	222,788	5,844	5,271	156,402	135,093	1,441	1,371

NOTE.—In some districts the vaccinators inspected villages more than once during the year.

The vaccinators thus checked 266,555 entries of male births and 222,788 of female births during the year. They found 5,844 omissions of births of males and 5,271 of females. With regard to omissions of deaths, the entries checked were 156,402 males and 135,093 females, and the numbers omitted to be registered were 1,441 males and 1,371 females. Last year they found 13,326 omissions of births and 3,420 of deaths. Their work, on the whole, is fairly satisfactory.

29. The following table shows the results of inspections by the six Divisional Inspectors during the year 1897 :—

Number of omissions discovered by Divisional Inspectors.

Divisional Inspectors of—	No. of villages inspected.	BIRTHS.				DEATHS.			
		No. of entries checked.		No. of omission <sup>s</sup> discovered.		Number of entries checked.		Number of omission <sup>s</sup> discovered.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Delhi Division ... ..	641	8,885	7,815	479	564	5,711	5,494	300	357
Kāngra and Hoshiārpur districts.	794	7,113	6,683	404	347	6,038	5,712	43	53
Jallundur, Ludhiāna and Ferozepore districts.	1,347	21,574	20,126	720	778	11,987	11,553	365	411
Rāwalpindi Division ... ..	727	5,477	5,468	779	764	3,841	3,301	300	280
Peshāwar do. ... ..	630	6,168	5,016	840	900	4,528	4,176	493	464
Derajāt do. ... ..	607	12,969	12,077	1,726	1,520	9,643	8,279	1,523	1,542
Total ... ..	4,746	62,186	57,185	4,948	4,873	41,748	38,515	3,024	3,107

The number of villages inspected by Divisional Inspectors was 4,746 against 3,242 last year. Out of 62,186 entries of male and 57,185 of female births checked, 4,948 and 4,873 omissions, respectively, were detected. The numbers of death entries checked were 41,748 males and 38,515 females, and the omissions discovered 3,024 males and 3,107 females. These figures compare very favourably with the results of the previous year. I strongly recommend the continuance of these officials in their present posts, for I have no doubt that registration has very greatly improved since they were first appointed in 1894.

## Section. VI.

### Chief Diseases.

30. The following statement shows the death-rates registered in the Province from principal diseases from 1867 to 1897 inclusive:—

1						2	3	4	5	6	7
YEARS.						DEATHS PER 1,000 OF POPULATION FROM—					
						Cholera.	Small-pox.	Fevers.	Dysentery* and diar- rhœa.	Injuries.	All other causes.
1867	...	...	...	...	...	2.73	1.35	11.00	not given	0.26	4.37
1868	...	...	...	...	...	0.03	1.36	8.66	1.02	0.27	2.31
1869	...	...	...	...	...	0.53	3.05	15.64	1.77	0.29	2.87
1870	...	...	...	...	...	0.03	1.55	15.74	1.56	0.26	3.09
1871	...	...	...	...	...	0.02	1.46	12.21	1.24	0.25	5.60
1872	...	...	...	...	...	0.50	1.36	15.14	1.33	0.25	6.04
1873	...	...	...	...	...	0.01	1.47	12.57	1.12	0.27	4.98
1874	...	...	...	...	...	0.004	0.69	10.90	0.94	0.28	5.30
1875	...	...	...	...	...	0.36	0.78	16.00	1.57	0.30	5.56
1876	...	...	...	...	...	0.33	0.59	20.09	1.56	0.27	5.58
1877	...	...	...	...	...	0.001	0.70	12.54	1.01	0.29	5.52
1878	...	...	...	...	...	0.01	2.30	25.19	1.83	0.33	6.29
1879	...	...	...	...	...	1.49	2.83	27.54	1.69	0.30	5.13
1880	...	...	...	...	...	0.01	0.52	18.74	1.18	0.32	6.25
1881	...	...	...	...	...	0.30	0.38	20.32	0.99	0.32	7.41
1882	...	...	...	...	...	0.002	0.34	18.40	0.85	0.30	6.90
1883	...	...	...	...	...	0.01	0.64	16.25	0.77	0.28	7.29
1884	...	...	...	...	...	0.03	0.87	24.71	0.97	0.29	8.16
1885	...	...	...	...	...	0.10	0.40	18.40	0.94	0.29	6.77
1886	...	...	...	...	...	0.0006	0.57	17.85	0.95	0.33	6.91
1887	...	...	...	...	...	0.47	0.87	23.78	1.30	0.32	7.57
1888	...	...	...	...	...	0.79	0.90	20.16	0.99	0.32	6.73
1889	...	...	...	...	...	0.15	0.42	22.75	0.96	0.34	7.00
1890	...	...	...	...	...	0.18	0.47	36.75	0.91	0.30	8.25
1891	...	...	...	...	...	0.49	0.17	21.52	0.59	0.29	6.08
1892	...	...	...	...	...	3.70	0.54	34.83	1.06	0.32	9.03
1893	...	...	...	...	...	0.03	0.20	18.95	0.79	0.35	7.81
1894	...	...	...	...	...	0.005	0.30	25.07	0.87	0.34	9.94
1895	...	...	...	...	...	0.03	0.41	19.08	0.76	0.33	8.69
1896	...	...	...	...	...	0.25	2.19	19.15	0.68	0.35	8.92
1897	...	...	...	...	...	0.03	0.78	20.57	0.77	0.35	8.54

\* Up to the year 1890 deaths were registered under the general head "Bowel-complaints."

### PLAGUE.

31. Plague appeared in the Province in an epidemic form, for the first time in 1897. In February a Brahmin named Rám Sarn, left Khatkar Kalán, a village of 1,200 inhabitants situated about two miles east of Banga, in the Nawashahr tahsil of the Jullundur district, for the purpose of making a pilgrimage to Hardwár. He returned to his village on the 29th April, and it is reported that he stayed one night at Rahon (another village near Nawashahr) on his way back, and that it was here the symptoms of the disease first showed themselves. By the time he reached his home he was very ill with high fever and delirium, and after a few days' illness he died. The people of the village in this case apparently recognized that he was suffering from some new form of fever, of which they had no previous experience, but it was not reported at the time. Shortly after the death of the first case, a Brahmin woman was attacked (a relative of Rám Sarn) by name Mussammát Málin, who lived near a large well, situated in this part of the village, and subsequently there were a few more cases of severe fever which caused no anxiety to the villagers, as they were ignorant of its nature, and there was no tendency to an epidemic. At the end of July or the beginning of August, however, rats were noticed to be dying in a curious way in some cattle-sheds, belonging to a zamíndár, named Hari Rám, situated not far from the well referred to, but beyond noticing the fact it does not

seem to have aroused any suspicion whatever in the minds of the villagers, so far as has been ascertained, or if it did, it was certainly kept quite quiet.

In September the Chamárs, who live on the west side of the village, and whose houses adjoin those of the Brahmins living near this well, became affected. The disease then began to spread more rapidly, and by October had taken on the characters of an epidemic, and the villagers now realized that they had an infectious and very fatal form of disease among them. On the 14th October four deaths took place which thoroughly frightened them, and a report was sent to Banga thána, and the Hospital Assistant at the dispensary went at once to the village, and as the result of his investigations he reported the disease as plague. The Civil Surgeon, Jullundur, then went to the village and expressed the same opinion.

On the morning of the 18th October I received a telegram from the District Superintendent of Police to the effect that plague had appeared in Khatkar Kalán, and I immediately instructed the Deputy Sanitary Commissioner to meet me at Jullundur, and together we visited the village on the 21st October when the disease was officially announced as plague. A cordon was placed around the village, and the necessary measures were started for dealing with the epidemic, as from the beginning of the month up to this time, so far as could be ascertained, 44 cases and 24 deaths had taken place. During the following week the entire population of the village were turned out into camp, and huddled in suitable grass huts within the village area. The sick were treated in hospital, while their relatives and all who had been near infected persons were accommodated in a special camp (called the segregation camp) within easy reach of the hospital. The remaining population were placed in another camp known as the health camp; the Muhammadans, Hindús and lower castes being all in separate divisions and arranged so that no disputes about mingling of castes should arise.

The disease showed signs of abating directly the people were got out into huts, and the last case occurred in this village on the 4th December, after which date it remained free, the total number of cases being 79 with 45 deaths, including those attacked before my arrival on the 21st October.

The disinfection of the village was begun on the 31st October and completed by the beginning of December, and may be briefly described as consisting of spraying the rooms with disinfectants, removing the furniture, white-washing the walls, and making large openings in the roofs of all the houses to allow sunlight and air to penetrate freely, while in all infected houses the entire roof was removed and the floor dug up to the depth of three inches. On December the 6th, the Rawals, who had not had a case for a month among them, began to return to the village; other castes followed, and all the inhabitants had returned to their houses by the 27th December. The cordon, however, was not removed till the 6th January in order to allow of 10 days observation, after every one had returned to the village, and the medical officer finally examined every person, and then declared the place free of plague. Plague cases were, however, found in other villages, which showed that the disease had spread, as on the 2nd November Jhandher Khurd, a village west of Banga, and about six miles from Khatkar Kalán, was found to be affected. It was dealt with in the same manner, and there were here only 29 cases and 18 deaths altogether, the last case occurring on the 19th December, the total population of this village being 395. On November the 24th plague was discovered in Khán-Khána, a large village containing 2,500 inhabitants, but it is almost certain that it was present in this village some time before it was reported by the village headmen. The villagers at first were not inclined to leave their houses, as they hoped that segregating the sick would be sufficient to check the disease, but a very rapid increase in the number of seizures (96) during the following fortnight caused them to understand their danger, and in the end they asked to be put out into camp. This was done, and by December 6th everyone was out and the village deserted. After the evacuation of the village the disease, as elsewhere, declined, but not so rapidly as in the other villages, a fact probably due to the firm hold of the place the disease seemed to have obtained, as well as the large number of persons



under treatment, and to the cold weather which made the people huddle together more than they had previously done.

The next place the disease appeared was at a village named Berámpur in the Garhshankar tahsíl of the Hoshiárpur district, about ten miles distant from Khatkar-Kalán, the outbreak being reported on December the 11th. In this case the source of infection was distinctly traced to Khatkar Kalán, as a sweeper's wife ran away from that village when her husband was attacked, and she subsequently became ill and died at Berámpur. It is reported that she escaped from Khatkar before a proper cordon had been placed round the village, and from the investigations and inquiries subsequently made by the officers detailed for duty in the infected area, there seems reason for thinking that two, or possibly three, villages were infected before it was realized that there was plague in the district.

Up to the close of the year there were altogether four villages in the Jullundur district and one in Hoshiárpur attacked, 274 cases and 155 deaths occurring in the Jullundur villages, and 28 cases with 20 deaths in the Hoshiárpur one. The disease thus spread slowly in this Province, just as it has done in Bombay and elsewhere, and it was only in the month of February after heavy rain had fallen that it made a sudden rise spreading more rapidly to other villages with increase of cases. At the time of writing this report the total number of villages attacked have been, Jullundur (up to the 2nd May) 62, and Hoshiárpur (up to the 30th April) 14; the total cases in the Jullundur district 2,238 and deaths 1,267, and in the Hoshiárpur district total cases 448 and deaths 269. The increasing heat seems to be checking the disease to some extent, but it is impossible to say whether it will cease altogether or merely lie dormant until next cold season, as it did last year.

#### CHOLERA.

32. It will be seen from the death-rates under cholera, shown in the preceding table, that the Province has suffered very little from this disease since 1892. During the year under review only 622 deaths were reported from it. As to the extent of the area affected by cholera, there were only 31 villages in which deaths were reported out of a total of 37,602 villages in the Province. Of the 622 deaths, 538 were registered in the district of Hissár, 61 in Gurgáon, 15 in Ráwalpindi, 6 in Gurdáspur and 2 in Lahore.

In the Hissár district out of the total mortality of 538, there were 67 deaths registered in the town of Hissár, 84 in Bhiwáni, 40 in Hánsi, and 347 deaths in 23 villages.

33. The Province was entirely free from cholera up to the 19th of June, when the disease made its appearance in the small village of Deosar in the Bhiwáni thána of the Hissár district. From the Civil Surgeon's report it appears that the first case occurred in the person of a Brahman woman. She had been to the town of Bhiwáni, where cholera broke out a couple of weeks later on. The woman showed symptoms of the disease on the 20th June. She had eaten nothing at Bhiwáni and had returned the same day to her village. She and her son died of cholera, while her husband, her daughter and a second son escaped the disease. On the second day of the outbreak the disease appeared in eight other families, and on the third day in four more, all in close proximity to each other. The Civil Surgeon, who visited the place at the time of the outbreak, attributes the appearance of the disease to the following circumstances. The water-supply was contaminated by the washing of the village grounds and the neighbouring fields. A couple of days before the outbreak of cholera a slight fall of rain occurred, and the tanks which had previously been dry were supplied scantily with water from the surrounding fields and the village grounds. The water so collected was dangerous owing to filth from the fields and the village grounds having found its way into the tanks. As the existing wells which usually supplied water were brackish, the people resorted to the tanks for water, and those who partook of tank water were affected with cholera. There were altogether 16 deaths registered from it.

The disease is reported to have broken out next in the municipal town of Bhiwáni, 6 miles from the village of Deosar. Two Muhammadan policemen were first attacked on the 3rd July in a police guardroom and died the following day. They had not been away from the town but the Civil Surgeon states in his report that "the people of Deosar used to pass by the police guard on the way to the town of Bhiwáni, so that there was a probable intercourse between the police and the people of Deosar." With regard to the subsequent spread of cholera in the town, the Civil Surgeon says that "the people attacked with the disease lived in close quarters with each other, all within a circle of a few hundred yards' radius." In the opinion of the Civil Surgeon the cause of the outbreak was the contamination of the water supply. After personal inspection of the town, on the occasion of the outbreak, the Civil Surgeon found the public latrines, the private filth receptacles, the homes of the poor, and the vicinity of the wells in a filthy condition, the water in the tanks black, and the smell from one of the wells most overpowering. Contamination of water took place from the filthy state of the tanks and from the bathing and washing of clothes at the wells; also the use of the same water-bags for carrying water from the tanks as well as from the wells. Cholera next made its appearance in the village of Sewani in the thána of the same name, causing 87 deaths in a population of 3,717. The first case occurred in the person of a Muhammadan on the 10th July. He with his brother and two neighbours went to Bhiwáni, and on his return fell ill with the disease. The water of this village, as in many other localities, is liable to contamination. The Civil Surgeon states that the surroundings of the wells are filthy; people bathe and wash their clothing round the mouth of the wells and in the water tanks, and the wells are so constructed that a person may go down and dip his dirty vessel into the water. The tops of the wells are surrounded with bathing platforms and sleeping and resting accommodation. In fact the wells are meant for travellers; water is drawn from the wells and lodged in the *chaubachás*; and those people who are disinclined to go down to the bottom of the well or to draw water from above replenished their vessels from the tanks or *chaubachás*. Mr. Weston, the Civil Surgeon, made personal inquiries into the particulars of the first cases from cholera in 16 towns and villages, and in many of them he traced the origin of the disease to importation from affected centres. In the villages of Gurana and Sewani the disease was most fatal. All possible efforts were made to prevent the spread of the disease by means of disinfecting the wells by permanganate of potassium and other precautionary measures, and the disease did not spread to any extent.

34. In Gurgáon, the 61 deaths registered in this district occurred in the town of Rewári. The first case which took place on the 31st July was in the person of a railway passenger, a sepoy, who had just arrived from Burma. In the Ráwalpindi district 15 deaths were registered in village Kanat Khalil in the police station of Jatli. There were 5 suspicious deaths reported from a village in the Gurdáspur district and 2 sporadic cases in the city of Lahore. In 26 districts no death from cholera was reported during the year.

Cholera map.

35. The usual cholera map is attached to this section of the report.

#### SMALL-POX.

36. The severe epidemic of small-pox which visited the Province in 1896, and caused 45,084 deaths, diminished during the year under report to 16,077: of this number 3,420 and 2,124, respectively, were registered during the months of January and February—a continuation of the high mortality of 1896. In March and April the number fell to 1,789 and 1,729. In May there was a slight increase, the mortality having risen to 1,909. In the following month the deaths registered were 1,643, and from that month the mortality went on decreasing till October, when 303 deaths were registered. This was practically the end of the epidemic, which at its height, during the month of May 1896, caused 8,047 deaths. The subsidence of the epidemic was



noticed in many districts of the Province, and the returns for November and December did not show any marked recrudescence of the disease, the number of deaths registered from small-pox in these two months having been only 383 and 393.

It will be seen from the following table that in the month of October 1897 the epidemic had entirely subsided in the districts which suffered most severely from it in 1896 :—

						Total mortality from small-pox in 1896.	Mortality registered in October 1897.
Ferozepore	...	...	...	...	...	4,954	32
Umballa	...	...	...	...	...	4,228	33
Lahore	...	...	...	...	...	3,775	27
Gurgaon	...	...	...	...	...	3,006	4
Hissar	...	...	...	...	...	2,821	6
Peshawar	...	...	...	...	...	2,533	7
Ludhiana	...	...	...	...	...	2,383	3
Montgomery	...	...	...	...	...	2,058	27
Shahpur	...	...	...	...	...	2,028	...
Bannu	...	...	...	...	...	1,205	...

37. As usual, the lowest death-rate from small-pox, *viz.*, 0·02, per 1,000 of population, was registered in Kangra, the best vaccinated district in the Province. Next to Kangra the smallest rates were recorded in the following districts—

District in which the low death-rates from small-pox occurred.

						Number of deaths registered.	Death-rate per 1,000 of population.
Rohtak	...	...	...	...	...	15	0·03
Gujrat	...	...	...	...	...	53	0·07
Gujranwala	...	...	...	...	...	75	0·11
Delhi	...	...	...	...	...	88	0·14
Simla	...	...	...	...	...	5	0·14

38. The death-rates for all the municipal towns, 151 in number, are shown in Annual Form No. II for the year 1896 and in Annual Form No. VI (towns) for 1897. It will be seen that in a large number of these towns the death-rate from small-pox was excessive, which indicates clearly that vaccination work is neglected in them. It is hoped that during the next vaccinating season Civil Surgeons will see that all towns with a high death-rate from small-pox are thoroughly vaccinated, and that vaccination work is vigorously carried on in them year after year.

### FEVERS.

39. The number of deaths registered under the head of fevers was 422,826, giving a death-rate of 20·57 against 19·15 in 1896 and 19·08 in 1895. Of the total fever mortality 213,938 were males and 208,888 females, showing a male death-rate of 19·33 and a female rate of 21·95. As usual the highest death-rates were registered in the months of October, November and December.

40. In 19 out of the 31 districts the death-rate from fevers during the year was below the average. The decrease was most marked in Gurdaspur, Jullundur, Hoshiarpur, Amritsar and Siálkot. In the districts of Dera Ismail Khan, Muzaffargarh, Hissar, Jhang, Bannu and Dera Ghazi Khan the death-rate from fevers was considerably higher than in the previous five years, as will be seen from the following table :—

					Fever death-rate for previous 5 years.	Fever death-rate for 1897.	Increase.
Dera Ismail Khan	...	...	...	...	23·47	40·49	17·02
Muzaffargarh	...	...	...	...	25·80	37·99	12·19
Hissar	...	...	...	...	22·65	34·23	11·58
Jhang	...	...	...	...	16·14	26·56	10·42
Bannu	...	...	...	...	24·56	32·71	8·15
Dera Ghazi Khan	...	...	...	...	23·74	31·15	7·41

To malarial fevers generally is attributed the cause of the high mortality in these districts.

## DYSENTERY AND DIARRHOEA.

41. The total number of deaths registered under the head of "Dysentery and Diarrhoea" was 15,851 against 13,886 in the previous year. The death-rate per 1,000 of population for 1897 was 0·77, being slightly lower than the average of the preceding five years.

The districts and towns in which the highest deaths occurred from these causes.

42. In the following districts the death-rate was comparatively high :—

Hissár	...	...	...	...	...	...	...	...	2·02
Simla	...	...	...	...	...	...	...	...	2·01
Gurgáon	...	...	...	...	...	...	...	...	1·89
Delhi	...	...	...	...	...	...	...	...	1·38
Kángra	...	...	...	...	...	...	...	...	1·11
Karnál	...	...	...	...	...	...	...	...	1·08
Dera Ismail Khan	...	...	...	...	...	...	...	...	1·04
Umballa	...	...	...	...	...	...	...	...	1·03

It was excessive in several municipal towns, notably in the following :—

HISSAR	...	...	Hissár	...	...	...	...	...	...	5·22
			Bhiwáni	...	...	...	...	...	...	7·35
			Sirsa	...	...	...	...	...	...	5·67
GURGAON	...	...	Rewári	...	...	...	...	...	...	5·69
			Farukhnagar	...	...	...	...	...	...	5·27
			Ballabgarh	...	...	...	...	...	...	12·74
DELHI	...	...	Faridabad	...	...	...	...	...	...	5·90
			Kángra	...	...	...	...	...	...	5·35
			Dharmśála	...	...	...	...	...	...	8·28
KANGRA	...	...	Hoshiárpur	...	...	...	...	...	...	5·64
			Khánnpur	...	...	...	...	...	...	7·32
			Anandpur	...	...	...	...	...	...	7·45
HOSHIAHPUR	...	...	Shujabad	...	...	...	...	...	...	5·06
			Pind Dádan Khan	...	...	...	...	...	...	8·37
			Kálabágh	...	...	...	...	...	...	5·52
MOOLTAN	...	...	Dera Ismail Khan	...	...	...	...	...	...	6·91
JHELM	...	...								
BANNU	...	...								
DERA ISMAIL KHAN	...	...								

Seasonal prevalence.

43. The annexed table shows the seasonal prevalence of dysentery and diarrhoea during ten years (1888 to 1897) :—

Months.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	Mean for 10 years.
January ... ..	1,430	1,170	823	778	780	1,564	843	942	908	860	1,010
February ... ..	941	880	632	576	483	875	548	537	575	560	661
March ... ..	779	838	635	488	480	687	649	636	690	564	645
April ... ..	1,024	1,154	735	527	839	783	1,048	1,042	959	862	897
May ... ..	1,500	1,565	985	1,147	1,238	1,586	1,841	1,810	1,100	1,100	1,387
June ... ..	1,391	1,336	938	1,114	1,019	1,604	1,423	1,280	885	953	1,194
July ... ..	1,330	1,352	1,010	979	883	1,302	1,202	1,245	1,045	930	1,128
August ... ..	1,672	1,663	1,907	960	1,196	1,397	1,906	1,460	1,529	1,460	1,515
September ... ..	2,262	2,106	2,580	1,377	2,906	1,722	2,144	1,767	1,886	1,973	2,072
October ... ..	2,438	2,315	3,053	1,662	5,202	1,809	2,582	1,858	1,692	2,514	2,513
November ... ..	2,142	2,051	2,335	1,443	4,081	1,655	2,257	1,636	1,446	2,181	2,12
December ... ..	1,717	1,636	1,530	1,101	2,374	1,166	1,540	1,433	1,171	1,894	1,556

## INJURIES.

44. Under the head of injuries are grouped together deaths from suicide, wounding and accidents, snake-bite and killed by wild beasts. The total deaths registered from all these causes was 7,265 against 7,093 in the previous year.

45. The number of deaths due to suicide was 180 males and 175 females. The largest number of suicides was recorded as usual in the district of Gurgáon, viz., 17 males and 46 females. In Amritsar also the number was high. In this district 15 males and 18 females committed suicide. In Hoshiárpur, Karnál and Delhi the number was 12, 10 and 11 males, and 15, 14 and 11 females, respectively. As usual, drowning, hanging and poisoning with opium were the modes commonly resorted to by people destroying themselves.

46. The total deaths from wounding amounted to 685, i.e., 538 of males and 147 females. The statement given below shows the districts in which the largest number of deaths from wounding were recorded :—

							Males.	Females.	Total.
Pesháwar	...	...	...	...	...	...	108	22	130
Kohát	...	...	...	...	...	...	52	12	64
Ráwalpindi	...	...	...	...	...	...	49	9	58
Jhelum	...	...	...	...	...	...	32	16	48
Bannu	...	...	...	...	...	...	41	5	46
Lahore	...	...	...	...	...	...	34	2	36

47. The number of deaths due to accidents was 3,043 males and 1,981 females. The subjoined table shows the different kinds of accidents from which 5,024 persons were killed :—

							Males.	Females.
Drowning	...	...	...	...	...	...	1,327	1,016
Crushed under roofs and falling from trees, rocks, &c...	...	...	...	...	...	...	892	422
Killed by lightning	...	...	...	...	...	...	37	8
Burns	...	...	...	...	...	...	300	302
Kicks of horses, &c.	...	...	...	...	...	...	70	25
Causes not known...	...	...	...	...	...	...	98	72
Other causes	...	...	...	...	...	...	319	136

48. From snake-bites 1,008 persons died during the year. The following statement shows the number of deaths registered from snake-bite from 1891 to 1897, inclusive, in those districts in which deaths from this cause are usually larger than in the other districts of the Province :—

Districts.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Mooltan	69	59	50	83	93	77	68
Fhang	66	46	59	75	70	70	65
Montgomery	69	70	70	66	73	49	60
Lahore	40	59	83	86	99	73	82
Gujránwála	69	94	84	120	117	145	155
Shahpur	36	43	49	55	70	36	57
Ráwalpindi	43	35	48	58	68	50	49
Muzaffargarh	40	55	47	65	73	53	49

More than half the total mortality from snake-bite in the Province during the year was registered in the 8 districts given in the above table. In last year's report the marked increase in deaths from snake-bite was noticed in Gujránwála. I regret to observe that the returns for 1897 show a still larger increase from this cause in this district.

Deaths from hydrophobia.

49. Under the head of hydrophobia 129 deaths were recorded; the numbers reported in 1896 and 1895 were 142 and 144, respectively.

50. The number of deaths grouped under the head of "All other causes" was 175,586. An attempt was made to give the details of deaths recorded under this head, but the meagre information furnished by Civil Surgeons was such that it was impossible to do so.

## Section IX.—Sanitary Works.

51. The following are the most important water-supply and drainage schemes which were either completed, in progress or under consideration during the year in different parts of the Province.

*Works completed.*—The Pind Dádan Khan water-supply scheme. (2) The excavation of two storage tanks in connection with the Bhiwáni water-supply project. (3) The extension of the water-supply to the cavalry lines at Kohát; also to the katcheri and Kohát charitable dispensary.

In connection with the Pesháwar city water-supply during the year 21 new standposts were erected and other minor improvements made. A masonry water-cut was made at Edwardesabad (Bannu district) at a cost of Rs. 6,084 and another at the Katcheri Gate Bazár at an outlay of Rs. 600. Both these works are in progress. The Amritsar water-supply project is ready for submission. The experimental borings have been completed. For the Ludhiána water-supply scheme borings are being taken for experimental wells. Rs. 751 were spent on experiments that are being made in connection with the Mooltan water-supply scheme. The estimates for the extension of the Delhi water-supply have been prepared and submitted to the Local Government for sanction. A project to provide a supply of water to the Cantonment of Mián Mír from Lahore is under preparation.

A large intercepting sewer egg-shaped which drains rather more than half of the town of Jhelum was completed during the year. On the Lahore sewage and drainage schemes Rs. 78,214 were spent as below:—(a) City project, Rs 19,275. (b) Anárkali project Rs. 16,110. (c) Mozang outfall, Rs. 42,829. A number of drains were also constructed in the Pesháwar city at a cost of Rs. 17,633. The drainage schemes of Mooltan, Ráwalpindi, Hazro, Delhi, Part II (Chándni Chowk), Balabgarh, Jagráon, Ráikot, Fázilka, Muktsar and Batála are under preparation, while those of Ladwa, Ferozepore (cantonment and city), are under consideration. The estimate for diverting the town drainage at Abbottabad from a nullah between the town and cantonment has been sanctioned, but this work is held in abeyance for want of funds. In connection with the drainage project (which is under preparation) of Gurdáspur town, four masonry reservoirs for collecting the sewage of the town were made. The sewage is pumped out from these reservoirs and removed in carts to a distance from the town. A tramway project for the improvement of the scavenging and sanitation of the Lahore Municipality is under preparation and will be submitted for approval to the Sanitary Board.

52. The statement showing the aggregate income and expenditure of the municipal towns in the Province for the year 1897 is given as Appendix C. to this report. The income amounted to Rs. 42,03,884, and there was a balance in hand at the beginning of the year of Rs. 10,92,066. The expenditure during the year amounted to Rs. 43,04,421.

53. The amount expended on sanitary works under the chief heads for the years 1895, 1896 and 1897 is given below for comparison :—

Head of Expenditure.	DURING THE YEAR		
	1895.	1896.	1897.
	Rs.	Rs.	Rs.
Conservancy establishment ... ..	5,43,825	5,83,174	6,35,308
Paving of streets ... ..	63,685	71,970	33,121
Roads and bridges ... ..	2,77,889	2,69,874	1,62,705
Drainage and sewerage ... ..	1,69,329	1,26,608	1,02,847
Water-supply, including cleaning of tanks ... ..	1,55,583	1,66,744	2,17,183
Latrines ... ..	21,741	15,813	15,475
Widening of streets ... ..	985	2,507	1,252
Total ... ..	12,33,037	12,36,690	11,67,891

54. The expenditure on drainage, sewerage and water-supply, including cleaning of tanks, &c., amounted to Rs. 1,02,847 and Rs. 2,17,183, respectively, as compared with Rs. 1,26,608 and Rs. 1,66,744 in the preceding year.

55. The income derived from the sale of manure amounted to Rs. 1,49,120 as compared with Rs. 1,36,076 in 1896 and Rs. 1,39,434 in 1895.

56. The following works of public utility were constructed during the year 1896-97 by private individuals at their own expense to serve sanitary purposes :—

In the Delhi district a *dharmsála* near Murthal, on the road leading to Memorput Ferry, was constructed at a cost of Rs. 3,000 by Sada Rám, Bohra of Murthal. Moti Lál, Khatri of Naya Bans, Delhi, spent Rs. 2,500 on a masonry well for the use of travellers near Bara Pula on the Delhi-Mathra road. In Rohtak district a *dharmsála* at Patodah, at a cost of Rs. 2,000, was constructed by Nathu Rám and Rámji Dás, sons of Bhura Mal, Mahájan, of Patodah. A *dharmsála* on the road leading from Riwara to Katwal was constructed by Ramchhore Dás, Bairági of Bhainswal Kalán, at a cost of Rs. 1,500. Baldewa, Brahmin, of Mawi, spent Rs. 1,200 on a *dharmsála* on the Katwal and Kahní road in the Rohtak district. In Karnál a masonry bathing ghât at the Pundri Tank was constructed at a cost of Rs. 5,000 by Pundit Brindabhan, son of Ghási Rám, Brahmin, of Pudri, tahsíl Kaithal. Mussammát Jai Devi, widow of Bálmokand, Mahájan, of Mauza Sewa, tahsíl Pánipat, built a *dharmsála* at Sewa, tahsíl Pánipat, at a cost of Rs. 1,660. Digging a tank at Naultha in tahsíl Pánipat at a cost of Rs. 1,500 by Langra Faqirs of Naultha village, tahsíl Pánipat. A masonry building with *bárádari* and one tank on the Kaithal-Pehowa road was built by Lála Sahu Mal, Mahájan, at a cost of Rs. 1,075. In the Umballa district Muhammad Umar, son of Azímullah, of Morinda, tahsíl Rúpar, built a sarai at Morinda at a cost of Rs. 1,235. A *dharmsála* at Nagla was constructed at a cost of Rs. 1,200 by Nihála, lambardár of Nagla, tahsíl Kharar. In the district of Kángra Mussammát Surjo, widow of Bhagat, Brahmin, of Daroh, tahsíl Pálampur, built a masonry well at Thorál, tahsíl Pálampur, situated on the road to Pálampur, at a cost of Rs. 2,000. In Hoshiárpur district a well near Dehlon on the Santokhgarh-Babhvar road in tahsíl Una was constructed for the use of travellers and the public in general, by Labha, son of Prema, carpenter, of Babhvar, tahsíl Una, at a cost of Rs. 2,500. A rest-house was constructed at Santokhgarh on the Una-Núrpur road for European travellers and officers on tour at a cost of Rs. 3,000 by Milk Ráj, son of Nihál Chand, Brahmin, of Santokhgarh, tahsíl Una. In Ludbiána Lála Shibdiál, of Máchiwára, built a sarai at Samrála at a cost of Rs. 3,204. In Ferozepore a small masonry tank was constructed by Madan Gopál, resident of Fázilka, at a cost of Rs. 2,500. Rabi Mal, son of Gopi Mal, Nauria, of Dharmkot, spent Rs. 25,000 on a sarai at Dharmkot. In Lahore a masonry well with a house and a temple in village Kamanh, was constructed by Maya Mal, Sáhúkar, of Lahore, at a cost of Rs. 1,200. Lála Kalyán Dás, Contractor, Ráwalpindi, spent Rs. 10,000 on a sarai and well on the Ráwal-

pindi-Murree road. A tank at Sagri was built by Melita Wazir Chand pensioned Extra Assistant Commissioner, of Sagri, at a cost of Rs. 5,000. A well and accommodation for travellers on the Grand Trunk road between Wah and Serai Kála, was constructed by Ahmad Khan of Wah, tahsil Attock, at a cost of Rs. 5,000.

Statement showing statistics of mortality in localities where water-works, drainage, or both, have been carried out.

57. In the following statement is given a comparison of the statistics of mortality in those places where drainage or water-works, or both, have been carried out in the Province:—

District and town or rural circle.	Date of completion of works of		Average annual death-rate since the introduction of drainage or water-supply, or both.				Average annual death-rate for the five years' period preceding the introduction of drainage or water-supply, or both.				REMARKS.
	Drainage.	Water supply.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	
TOWNS.											
Delhi ... ..	...	1893	0·06	1·22	21·24	1·68	0·42	* 0·59	26·72	1·94	* The works were begun in 1876 and completed in 1893.
Umballa ... ..	...	1895	0·13	1·25	11·33	5·13	0·54	0·38	19·32	6·40	
Simla ... ..	1893	1893*	..	0·29	14·94	0·69	0·02	1·08	17·08	1·39	
Ludhiána ... ..	1893	...	0·004	0·43	14·48	3·29	0·88	1·39	25·75	2·46	
Lahore ... ..	...	1881	0·58	0·91	19·81	1·50	1·87	1·55	27·79	2·26	
Amritsar ... ..	1885	...	0·30	0·14	27·14	1·87	0·90	1·34	32·30	3·28	
Dalhousie ... ..	...	1894	..	0·30	9·58	1·86	..	..	0·59	2·43	
Gujranwála ... ..	1892	...	0·19	0·42	14·21	1·08	0·45	0·59	19·71	1·68	
Siálkot ... ..	1888	...	0·08	1·17	16·63	2·80	0·01	0·94	9·25	3·46	
Ráwalpindi ... ..	...	1887	1·10	0·44	22·72	2·56	0·45	0·07	16·37	3·38	
Murree ... ..	...	1894	0·35	...	18·35	1·72	0·68	0·36	14·79	0·94	
Kohát ... ..	1892	1893	0·01	1·12	17·69	1·34	0·52	1·94	20·87	2·18	
Kálka ... ..	...	1890	0·46	0·07	16·64	2·45	1·70	0·18	15·24	3·88	
Jullundur ... ..	1891	...	0·47	0·37	18·33	2·31	0·50	0·12	15·88	2·86	
Bunga ... ..	1890	...	0·60	0·58	15·60	3·59	0·18	1·30	13·32	2·66	
Abbottabad ... ..	...	1892	0·67	0·17	10·09	0·34	0·62	..	8·92	0·72	
Haripur ... ..	...	1896	0·30	3·30	14·10	0·70	4·04	0·24	17·28	2·32	
RURAL CIRCLES.											
Gurdáspur ... ..	1894	..	...	0·30	23·13	0·80	0·20	0·12	38·69	2·06	
Kalánau ... ..	1894	..	..	0·18	21·23	1·00	0·002	0·81	32·88	2·78	
Dunera ... ..	...	1894	...	0·18	20·80	0·35	0·23	..	21·48	0·88	
Shahgarh ... ..	1894	...	0·03	0·25	26·23	0·90	0·13	0·33	42·37	1·29	
Fatehgarh ... ..	1894	...	..	0·07	23·03	0·68	0·10	0·21	31·20	2·18	
Kahnúwán ... ..	1894	...	...	0·30	20·38	1·35	..	0·06	41·75	1·20	
Dera Nának ... ..	1894	...	...	0·18	21·75	0·63	0·01	0·09	37·30	0·78	
Maheshpur ... ..	1893	...	Information not available.								

The year of the completion of the drainage scheme in the case of the town of Ráwalpiudi was, by mistake, shown in previous reports as 1891. The work has not yet been put in hand. As ordered by His Honor the Lieutenant-Governor, in para. 13 of the Review on the Sanitary Report for 1896, I have had a separate statement prepared for the town of Pesháwar; showing the death-rates from principal diseases; first, before the completion of the drainage; secondly, after the completion of the drainage, but before the completion of the water-supply; and, thirdly, after the completion of the water-supply. So far as the figures go there is a decided improvement in the death-rate from cholera in Pesháwar as well as in almost all the other towns and rural circles shown in the above table, but the ratio from fevers has been in certain cases higher. I think a few more years must be allowed to elapse after both drainage and water-works have been introduced in each place, and the use of pipe water become more general; before the statistics can be safely relied on as evidence of improvement.

## SECTION X.—General Remarks and Personal Proceedings.

58. I held the office of Sanitary Commissioner, Punjab, throughout the year, except for one month and twenty-four days when I went on privilege leave. During this time Surgeon-Major C. J. Bamber, Civil Surgeon of Ráwalpindi, officiated as Sanitary Commissioner.

Administration.

The office of Deputy Sanitary Commissioner was held by Surgeon-Captain C. H. James from 1st to 5th January, when he proceeded on three months' privilege leave, and his place was taken by Surgeon-Captain G. Y. C. Hunter.

Surgeon-Captain C. H. James returned and took up the duties of the office on the afternoon of 3rd April, but was again relieved by Dr. Hunter on April 6th when he received orders from the Local Government to proceed to Bombay to study plague. He was away till June 6th, and Dr. Hunter acted as Deputy Sanitary Commissioner till that date. From 7th June till the end of the year Dr. James was in charge. But since 21st October he has been on special duty in connection with the operations for the supervision of plague in the Jullundur district under the orders of the Inspector-General of Civil Hospitals, Punjab.

Inspection work of Sanitary Commissioner.

59. I visited the following places during the year :—

In January the towns of Bhera, Miáni, Shahpur, Khusháb, Sirsa, Pind Dádan Khan and 16 villages; in February the towns of Ráwalpindi, Hasanabdál, Hazára, Attock, Nowshera, Pesháwar and 8 villages; in March the towns of Jhelum, Lála Músa, Gujrát, Wazírabad and 6 villages; in April the towns of Delhi, Simla and Kálka; in October Jullundur city, Phagwára, and Khátkar Kalán; in November and December, Kasúr, Ferozepore, Ludhiána, Máchiwára Jagráon and 8 villages.

60. During a part of October and the whole of November I delivered the usual number of lectures at the Medical College, Lahore.

Lectures on Hygiene.

61. Surgeon-Captain C. H. James, Deputy Sanitary Commissioner, Punjab, made sanitary inspections of the following places :—  
Sultánpur, Murree, Abbottabad, Banga and Gurshankar, and 36 villages; and Surgeon-Captain G. Y. C. Hunter, officiating Deputy Sanitary Commissioner, Punjab, inspected Pánipat, Rúpar, Murree and 20 villages. The Natives States of Mandi, Suket and Bhajji were also visited.

Inspection work of Deputy Sanitary Commissioner.

62. The following table shows the number of municipal towns and smaller towns and villages inspected by the Civil Surgeons and Assistant Surgeons during the year :—

Inspection work of Civil Surgeons and Assistant Surgeons.



Statement showing the names of the Municipal towns and the number of smaller towns and villages inspected by the Civil Surgeons during 1897—concluded.

No.	Name of district.	NUMBER OF TOWNS, &c., INSPECTED BY—				Number of days on tour.	REMARKS.
		Civil Surgeons.		Assistant Surgeons.			
		Towns.	Villages and smaller towns.	Towns.	Villages and smaller towns.		
1	Hissár ...	5	64	...	...	47	Cause of high mortality in certain localities was investigated. When cholera broke out treated the sick and took measures to prevent its spread. Distributed quinine gratuitously.
2	Rohtak ..	6	40	...	...	29	Sanitation and vaccination and vital statistics.
3	Gurgáon ...	6	45	...	...	42	32 days inspection of dispensaries and sanitation, 8 days inspection of vaccination, 2 days inspection of cholera in Rewári town.
4	Delhi ...	4	...	...	...	8	
5	Karnál ..	6	40	...	...	78	Many of the villages and especially all the municipal towns were inspected more than thrice during the year, the defects noted and forwarded to the Deputy Commissioner of the district.
6	Umballa ...	1	...	...	...	5	
7	Simla ...	1	...	...	...	...	
8	Kāngra ...	3	60	...	63	96	The sanitation of the towns and villages have been seen to by the Civil Surgeon.
9	Hoshiárpur ...	10	582	...	...	109	
10	Jullundur ...	...	...	...	...	...	The Civil Surgeon made no sanitary inspection of towns or villages, but Rái Sáhib Bhagwán Dás saw 24 villages and one town of Bungah and Drs. Nicholson and Davidson several villages and Bungah, Nawashahr and Ráhon towns, in connection with plague.
11	Ludhiána ...	5	34	...	...	11	
12	Ferozepore ...	8	70	5	32	33	The head village men were ordered to keep their drinking wells separate from others. The manure to be stacked at a distance from inhabitations; the well at village Ghagu contained bad water, where charcoal and quicklime were used to purify water.
13	Mooltan ...	10	65	...	...	37	
14	Jhang ...	3	230	...	...	32	Verified 2,803 vaccine operations.
15	Montgomery ...	...	...	6	62	...	
16	Lahore ...	4	...	3	...	9	Inspected the towns in which dispensaries are situated.
17	Amritsar ...	6	10	...	2	14	Pointed out defects to village officials and others resident therein.
18	Gurdáspur ...	7	60	...	...	23	The registers of 231 villages were examined and 27 omissions in births discovered. The sanitation of 7 municipal towns and 60 villages was inspected during the year and copies of the Inspection Reports were sent to the Deputy Commissioner for necessary action.
19	Siálkot ...	4	30	...	...	...	
20	Gujrát ...	4	113	...	...	69	Sanitary condition of villages and towns noted and glaring defects reported to the Deputy Commissioner. Famine camp was frequently inspected; vaccination inspections were made.
21	Gujránwála ...	6	132	...	...	21	The water-supplies were inspected and defects in the construction of wells, &c., pointed out. Also the drainage and general sanitary state of the surroundings of the towns and villages were seen to, and these defects pointed out to the bodies concerned, and brought to the notice of Deputy Commissioner.
22	Shahpur ..	11	109	...	...	118	Inspected vaccination and sanitation, checked the registers of births and deaths, and made suggestions to keep off the plague from the district.
23	Jhelum ...	2	40	...	...	31	
24	Ráwalpindi ...	4	13	...	...	25	Inspected 1,571 vaccinations while on tour, and discovered 26 omissions in the births.
25	Hazára ...	...	...	...	...	...	
26	Pesháwar ...	1	19	...	...	17	
27	Kohát ...	2	6	...	...	8	
28	Bannu ...	4	1	...	...	...	
29	Dera I. Khan ...	4	4	...	...	2	
30	Dera G. Khan ...	3	30	...	...	9	
31	Muzaffargarh ...	4	311	...	...	32	Vaccinations inspected and sanitary state of villages seen. Noted the sanitation of the different habitations and their liability to floods. As well as instructed the inhabitants how to clothe and feed themselves, &c.
Total ...		134	2,108	14	159	905	

This statement shows that in 1897 the Civil Surgeons inspected 134 towns and 2,108 villages, compared with 191 towns and 1,696 villages in 1896. The Assistant Surgeons inspected 14 towns and 159 villages, compared with 8 towns and 265 villages.



63. One death of a girl was reported from the Lawrence Military Asylum, Sanáwar, during the year, in an average strength of 214. The average strength of boys was 266. The average number daily sick amongst boys and girls, respectively, was 2.84 and 2.41 or 1.07 and 1.13 per cent. of strength. The number of total admissions from different diseases was 117 amongst boys and 99 amongst girls, the largest number of admissions being from intermittent and remittent fevers. The want of a proper and abundant water-supply is the great need of this Asylum just now. Dr. Bamber visited the Asylum in September 1897, and submitted a report to Government.

64. In the Lawrence Memorial Asylum, Murree, there was no death registered during the year. The total strength of the Asylum was 82 males and 76 females. The average number daily sick was 4.00 and 3.70, respectively, showing a percentage of 4.89 for boys and 4.85 for girls. There were 223 admissions during the year, the largest numbers being from mumps and measles, viz., 101 and 79, respectively.

65. The following statement shows the birth and death-rates in the selected villages situated on the Western Jumna Canal in the districts of Hissár, Rohtak, Delhi and Karnál since 1893, the year from which the tabulation of special statistics in these areas began :-

DISTRICTS.	BIRTH-RATE <i>per mille.</i>					DEATH-RATE <i>per mille.</i>				
	1893.	1894.	1895.	1896.	1897.	1893.	1894.	1895.	1896.	1897.
Hissár ... ..	34	42	40	39	35	23	25	27	25	42
Rohtak ... ..	40	43	50	48	46	22	33	33	35	28
Delhi ... ..	44	46	42	47	48	27	37	33	33	32
Karnál ... ..	46	52	51	52	55	27	44	39	45	43

66. The following are the districts in which substantial progress was made during the year in the cleaning and repairing of wells :-

The District Board, Siálkot, expended Rs. 996 in cleaning out 216 wells and constructing parapets and platforms of 130 wells, both in villages and on the roadsides in the district. In the district of Gujránwála 708 wells were cleaned out at a cost of Rs. 1,910 by the local bodies of the district, but no special provision was made for platforms and parapets. In the Jhang district the District Board expended Rs. 131-11-7 in cleaning out wells and repairing their platforms and parapets. Rupees 108-9-0 were spent by the District Board, Delhi, in cleaning and repairing of 11 wells. In Gurgáon 2 wells have been sunk by private individuals at Gurgáon and Rewári; 34 drinking wells were cleaned, 2 wells were repaired at a cost of Rs. 85. A sum of Rs. 75 was given out of District Fund towards sinking a *pucca* well at Umarpur, where the villagers had collected Rs. 123 themselves. In the Karnál district 40 wells were cleaned out in the town of Karnál, but no new wells were provided with platforms or parapets during the year owing to want of funds. In the Gurdáspur district 54 wells were cleaned and parapets of 17 wells were constructed, and the masonry of 3 wells repaired. In the Gujrát district 60 drinking wells were cleaned out, but no wells were provided with platforms and parapets. Fifteen drinking wells were cleaned out in the Montgomery district, and there are two drinking wells for which provisions of platforms and parapets were made during 1897. In the Ferozepore district only 3 wells were cleaned and repaired by the District

Board at a cost of Rs. 150-10-9 during the year under report. The District Board, Ráwalpindi, spent a total sum of Rs. 2,145 on improving wells and other sources of water-supply. In Pesháwar a sum of Rs. 13,021 was expended on maintaining works, repairs to Bára band and to wells. In the Jhelum district all municipal wells were cleaned out during the year. In the Kohát district the matter of village sanitation and improvements to drinking water wells and tanks received some consideration from the District Board, and wells and other sources of drinking water were improved at an aggregate cost of Rs. 254 during the year. In the Muzaffargarh district 46 wells have been cleaned during the year. The construction of platforms round the wells in the town of Dera Ismáíl Khan is in progress. In the Bannu district 3 wells on the encamping grounds at Domel, Nauring and Miánwáli, and the wells in the tahsils were cleaned as usual. Many of the private *kacha* wells in the Isa Khel parganah were cleaned by villagers, and *kacha* parapets were supplied to some of them. The number of wells cleaned in the Amritsar district during the year was six. The remarks made in the annual reports received from the other Deputy Commissioners is to the effect that several wells were cleaned in the districts and several parapets provided.

67. The Civil Surgeons of Shahpur, Gujránwála, Gurdáspur and Gujrát have mentioned in their reports that the system of the gratuitous distribution of quinine is popular and appreciated by the people. Lála Múl Chaud, the officiating Civil Surgeon of Karnál, however, is not of this opinion. He says:—

Rupees 90 were spent in purchasing quinine for free distribution in the district through zaildárs and lambardárs, &c. A greater part of this may have gone for the use of the influential and well-to-do people in the district. Personally I see there is no necessity for free distribution any longer, as the people have now become fully alive as to the benefits of the prophylactic; and its purchase through the post office and other agencies will be enhanced if the *gratis* distribution be put a stop to. Of course, the *gratis* distribution through the district dispensaries should be continued as heretofore.

Surgeon-Captain D. H. Graves, the Civil Surgeon of Dera Gházi Khan district, states that vaccinators were supplied with medicines for distribution in the district. They attended 2,986 cases. They do a considerable amount of good in distributing simple medicines. A special sum of Rs. 60 is sanctioned by the Deputy Commissioner of the district for purchase of medicines for vaccinators, and also a fairly large sum for the distribution of quinine to headmen of villages, lambardárs and zaildárs. This year quinine was freely distributed in the district, and about 3,000 people were supplied with quinine by the headmen of villagers.

68. Under this head there is little or nothing to be added to previous remarks, but from the report of the Secretary, Municipal Committee of Delhi, it appears that the system is working well. He says:—"The filth trenching farm in Mauza Khandráť Kalán is a success so far, for it takes the filth of most part of the city without causing any nuisance, and the canal just made is working well and giving satisfaction. It is hoped that the canal water-supply now secured will in a few years transform this waste land into fine fields, yielding a considerable revenue, and above all be the means of using up all the filth of the city as manure instead of its being frittered and constituting a dangerously increasing nuisance year after year."

69. From the Annual Sanitary Reports received in this office from the Deputy Commissioners, it appears that no remission of revenue or reward or *khillats* were granted to the headmen of villages or villagers for interest displayed in the sanitary improvements of their villages.

70. One hundred copies of the village sanitary inspection books were supplied to the Deputy Commissioners during 1897. These books (which have been kept in several villages in every tahsíl of the district) have proved useful in giving important sanitary information to the inspecting officers at the time of their visits to the villages.

## Sanitary Board.

71. Only one meeting of the Sanitary Board was held during the year at Simla. The following subjects were considered and discussed by the Board:—

- (1) Papers regarding the excessive death-rates from fevers in the Province, also the Note by the Secretary, Sanitary Board, submitting a statement showing the thánás which are considered dry and those which are considered wet from nine districts in the Province, also Punjab Government letter No. 977, dated 1st June 1897, directing that certain information for the years 1890-96 should be obtained and tabulated for each circle of the tahsils of Pathámkot, Shakargarh, Palwal, Rewári, Tarn Taran and Kasúr.
- (2) Papers relating to the unhealthiness of the villages in the Neli circle tract of the Kalsia State, and also of the villages in the Neli circle tract of the Kharar tahsíl or British territory; also Secretary, Sanitary Board's Note, together with the vital statistical returns of these two groups of villages for the year 1896; also Dr. Dyson's report and suggestions for improving the health of the people residing in these villages.

With regard to No. (1), the Board resolved that when the statement now required by Government is tabulated, the information laid before the Board this day regarding the wet and dry thánás of these nine districts, be added as a supplement to that statement.

With regard to No. (2), the Board, having carefully perused Dr. Dyson's interesting report, considered that his suggestion regarding the regulating the share of water to which the cultivators of the Patiála and Kalsia State are entitled by agreement was impracticable, but recommended that his suggestion for the free distribution of quinine all the year round, and not only during the rains, be carried out.

The Board also resolved that copies of all correspondence on the subject up to date be forwarded to Government for the information of the Financial Commissioner, and the mortuary returns of these villages be continued to be sent for a series of years to the Sanitary Commissioner for tabulation.

The following miscellaneous papers were circulated amongst the members of the Board and ordered to be recorded:—(1) Minutes of the 1st Meeting of the North-Western Provinces and Oudh Sanitary Board held at Lucknow on 23rd November 1896. (2) Punjab Government Circular No. 22, dated 22nd February 1897, together with a set of rules to be observed in the management of the more important fairs in the Punjab. (3) Papers regarding matters connected with the sun eclipse and other large fairs at Thánesar. (4) Papers and a plan of the drainage project for the town of Ferozepore. (5) Report by the Sanitary Commissioner, Punjab, on the sanitary condition of Lahore. (6) Proceedings of the 23rd Meeting of the Sanitary Board, Bengal, dated 15th March 1897. (7) Minutes of the 2nd Meeting of the North-Western Provinces and Oudh, held at Lucknow on 11th January 1897. (8) Punjab Government Proceedings No. 373—6, Part A, for March 1897, regarding the suppression of the Bari Shah Latíf Fair, known as the Núrpur Fair, in the Ráwalpindi District. (9) Succinct report of the Sanitary Board, North-Western Provinces and Oudh, for 1896. (10) Proceedings of the 24th Meeting of the Sanitary Board, Bengal, held on 27th August 1897.

W. A. CRAWFORD ROE, F.R.C.S., D.P.H., CAMB.,

BRIGADE-SURGEON-LIEUTENANT-COLONEL,

*Sanitary Commissioner, Punjab.*

SHOWING THE BIRTHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1897.

1	2	3			4			5			6	7	8	9			10
		POPULATION ACCORDING TO CENSUS OF 1891.			NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			to	Excess of births over deaths per 1,000 of population	Excess of deaths over births per 1,000 of population.	MEAN RATIO OF BIRTHS PER 1,000 DURING PREVIOUS FIVE YEARS.			No.
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Number of males born to every 100 females born.			Males.	Females.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Delhi Divn.																	
1	Hissár ... ..	414,801	361,007	775,808	13,665	12,602	26,267	17.6	16.2	33.9	108.4	.	11.4	22.8	20.6	43.4	1
2	Rohtak ... ..	313,426	277,020	590,446	14,147	12,927	27,074	24.0	21.9	45.9	109.4	13.3	.	23.5	21.2	44.7	2
3	Gurgáon ... ..	350,194	318,669	668,863	16,567	14,706	31,273	24.8	22.0	46.8	112.7	9.4	.	25.1	22.7	47.8	3
4	Delhi ... ..	342,077	293,147	635,224	15,127	14,225	29,352	23.8	22.4	46.2	106.3	12.0	.	22.8	21.1	43.9	4
5	Karnál ... ..	370,845	312,807	683,652	17,665	16,232	33,897	25.8	23.7	49.6	108.8	8.8	.	24.1	21.9	45.9	5
6	Umballa ... ..	535,533	446,758	982,291	19,157	17,350	36,507	19.5	17.7	37.2	110.4	6.9	.	20.0	17.8	37.8	6
7	Simla ... ..	22,165	13,081	35,246	370	310	680	10.5	8.8	19.3	119.4	.	2.6	9.6	8.6	18.2	7
Jullundur Divn.																	
8	Kángra ... ..	394,402	365,056	759,458	11,801	11,210	23,011	15.5	14.8	30.3	105.3	1.7	.	17.4	16.5	33.9	8
9	Hoshiárpur ... ..	540,038	471,606	1,011,644	20,359	19,125	39,484	20.1	18.9	39.0	106.5	14.3	.	19.5	17.9	37.5	9
10	Jullundur ... ..	481,630	409,717	891,347	21,006	19,489	40,495	23.6	21.9	45.5	107.8	19.7	.	21.9	20.4	42.3	10
11	Ludhiána ... ..	354,372	294,283	648,655	15,669	14,588	30,257	24.2	22.5	46.6	107.4	11.9	...	23.3	21.8	45.2	11
12	Ferozepore ... ..	469,346	392,153	861,499	21,527	19,691	41,218	25.0	22.9	47.8	109.3	16.1	.	23.4	21.0	44.5	12
Lahore Divn.																	
13	Mooltan ... ..	339,668	281,191	620,859	15,718	14,420	30,138	25.3	23.2	48.5	109.0	15.0	.	21.1	18.6	39.7	13
14	Jhang ... ..	233,579	203,242	436,821	13,222	11,917	25,139	30.3	27.4	57.5	111.0	17.1	.	22.0	19.5	41.5	14
15	Montgomery ... ..	269,569	229,880	499,449	10,494	9,562	20,056	21.0	19.4	40.2	109.7	17.1	.	21.1	18.9	40.0	15
16	Lahore ... ..	579,116	476,503	1,055,619	24,064	22,553	47,517	23.6	21.4	45.0	110.7	18.2	.	22.6	20.2	42.8	16
17	Amritsar ... ..	541,932	449,058	990,990	24,586	22,420	47,006	24.8	22.6	47.4	109.7	19.1	..	22.8	20.8	43.6	17
18	Gurdáspur ... ..	511,129	429,656	940,785	21,309	20,089	41,398	22.7	21.4	44.0	106.1	10.0	.	22.0	20.3	42.3	18
Rawalpindi Divn.																	
19	Siálkot .. ..	584,638	514,074	1,098,712	27,308	25,258	52,566	24.9	23.0	47.8	108.1	22.9	.	24.5	22.5	47.1	19
20	Gujráť ... ..	400,485	360,338	760,823	14,237	12,889	27,126	18.7	16.9	35.7	110.5	13.8	.	21.2	18.8	40.0	20
21	Gujránwála ... ..	378,972	311,089	690,061	19,132	17,590	36,722	27.7	25.5	53.2	108.8	25.3	.	25.0	22.3	47.4	21
22	Shahpur ... ..	258,118	235,417	493,535	10,671	9,622	20,293	21.6	19.5	41.1	110.9	9.1	.	20.8	18.5	39.3	22
23	Jhelum ... ..	315,011	290,763	605,774	11,616	10,503	22,119	19.2	17.3	36.5	110.6	4.9	.	20.7	18.6	39.3	23
24	Ráwalpindi ... ..	447,549	397,710	845,259	16,549	14,739	31,288	19.6	17.4	37.0	112.3	4.3	...	20.9	19.0	39.8	24
Peshawar Divn.																	
25	Hazára ... ..	253,105	223,020	476,125	7,880	7,062	14,942	16.6	14.8	31.4	111.6	8.1	.	17.2	14.9	32.1	25
26	Pesháwar ... ..	361,439	317,744	679,183	12,145	8,593	20,738	17.9	12.7	30.5	141.3	7.3	.	15.3	10.4	25.8	26
27	Kohát ... ..	96,577	85,910	182,487	4,072	3,440	7,512	22.3	18.9	41.2	118.4	8.8	...	19.1	16.1	35.3	27
Derajat Divn.																	
28	Bannu ... ..	195,514	174,458	369,972	8,837	7,497	16,334	23.9	20.3	44.1	117.9	1.1	...	20.1	16.9	37.0	28
29	D. I. Khan ... ..	257,411	225,052	482,463	10,854	9,274	20,128	22.5	19.2	41.7	117.0	..	8.5	20.8	17.9	38.8	29
30	D. G. Khan ... ..	218,359	181,501	399,860	8,995	7,093	16,088	22.5	17.7	40.2	126.8	4.4	.	18.2	14.1	32.3	30
31	Muzaffargarh ... ..	206,908	174,164	381,072	9,549	8,450	17,999	25.1	22.2	47.2	113.0	2.9	.	18.8	15.9	34.7	31
	Total ... ..	11,037,908	9,516,074	20,553,982	459,198	415,425	874,623	22.3	20.2	42.6	110.5	11.5	...	21.5	19.3	40.8	

NOTE.—The transfer of certain towns and thanás from Umballa to Karnál district having taken place in October, no alteration is made in the population this year.

STATEMENT OF BIRTHS AND DEATHS REGISTERED IN EACH DISTRICT OF THE PUNJAB AND THE RECEIPTS AND  
OF EACH DISTRICT AND THE MEASURES TAKEN

No.	1	2	3	4	5			6		7			8	9								
					POPULATION (CENSUS 1891).			BIRTHS.		NUMBER OF DEATHS REGISTERED.				DEATHS PER 1,000 OF POPULATION FROM								
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	Injuries.	All other causes.	All causes.		
																				Males.	Females.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Delhi Division.																						
1	Hissár .. ..	5,163	150	414,891	381,007	775,898	26,267	33·0	18,308	16,842	35,150	108·7	0·7	0·5	31·2	2·0	0·2	7·8	44·1	46·7	45·3	
2	Rohtak ...	1,797	328	313,426	277,020	590,446	27,074	45·9	10,364	8,909	19,273	116·3	...	0·03	22·3	0·9	0·3	9·2	33·1	32·2	32·6	
3	Gurgáon ... ..	1,984	337	350,194	318,669	668,863	31,273	46·8	13,013	11,975	24,988	108·7	0·1	0·4	25·9	1·9	0·1	8·7	37·2	37·6	37·4	
4	Delhi. ... ..	1,200	492	342,077	293,147	635,224	29,352	46·2	10,780	10,418	21,178	103·3	..	0·1	10·6	1·4	0·4	11·9	31·5	35·5	33·8	
5	Karnál ... ..	2,440	280	370,845	312,807	683,652	33,897	49·6	14,276	13,036	27,012	104·7	...	0·8	26·7	1·1	0·4	11·8	38·5	43·6	40·8	
6	Umballa ... ..	2,754	357	535,533	446,758	982,291	36,507	37·2	15,333	14,451	29,784	100·1	.	0·1	19·6	1·0	0·3	9·1	28·6	32·4	30·3	
7	Simla ... ..	102	346	22,165	13,081	35,246	680	19·3	419	322	771	139·4	...	0·1	9·6	2·0	0·1	9·7	20·3	24·6	21·9	
Jullundur Division.																						
8	Kángra ... ..	9,574	79	394,402	365,056	759,458	23,011	30·3	11,261	10,472	21,733	107·5	...	0·02	19·5	1·1	0·4	7·6	28·6	28·7	28·6	
9	Hoshiárpur .. ..	2,244	451	510,038	471,606	1,011,644	39,484	39·0	12,853	12,106	24,959	106·2	...	0·6	15·1	0·9	0·3	7·9	23·8	25·7	24·7	
10	Jullundur ... ..	1,438	622	481,630	408,717	891,347	40,194	45·4	11,009	11,899	22,908	92·5	...	0·7	14·8	0·5	0·2	9·8	22·9	29·0	25·7	
11	Ludhiána ... ..	1,458	446	354,372	294,288	648,660	30,257	43·6	11,197	11,317	22,514	98·9	...	0·5	20·9	1·0	0·3	12·1	31·6	38·5	34·7	
12	Ferozepore ... ..	4,302	200	469,346	392,153	861,499	41,218	47·8	13,756	13,576	27,332	101·3	...	1·0	19·0	0·9	0·3	10·6	29·3	34·6	31·7	

## No. II.

EXPENDITURE IN EACH DISTRICT, FROM, AND ON, CONSERVANCY, TOGETHER WITH THE PRINCIPAL SANITARY DEFECTS TO REMEDY THEM DURING THE YEAR 1897.

10			11	12	13				14	15
MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.			Net receipt of each district from conservancy.	Net expenditure in each district on conservancy.	PRINCIPAL SANITARY DEFECTS OF DISTRICT.				Measures taken for sanitary improvement of district.	No.
Males.	Females.	Total.			a		b	c		
					In drainage.	The average distance of the sub-soil water from the surface of the ground (feet).	In water-supply.	In domestic cleansing and conservancy.		
23	24	25	26	27	28	29	30	31	32	33
			Rs.	Rs.						
32.0	32.3	32.1	2,403	19,395	Drainage defective in tract of the country on the canal bank and beside the Ghaggar in the Sirsa tahsil. Only in the Hansi tahsil of this district is there any water-logging.	10 to 140	Water in the wells is far from the surface and difficult to draw and sheer necessity drives people to use water from the tanks for drinking purposes, which is filthy.	There is not much domestic cleansing or conservancy in villages in this district. Fortunately the want of conservancy is not so injurious in a dry district as it would be in places where the rainfall is considerable.	A scheme is under preparation by the Irrigation Branch, Public Works Department, to remove obstructions to drainage, &c.	1
31.1	30.3	30.8	384	7,507	The drainage in this district is good, but there are a few water-logged tracts.	20 to 120	Water generally saltish or brackish, mostly during rainy season.	Domestic cleansing and conservancy not good even in well-to-do houses and bad in the houses of poor. Drainage and conservancy system not efficient.	Measures are being taken gradually to remedy the defects in the water-logged areas.	2
33.5	32.4	32.9	329	9,902	The only obstruction to drainage in this district occurs near Palwal (by the Agra Canal).	Information not available.	Water chiefly brackish.	No proper conservancy in houses ...	Remedial measures regarding the obstruction to drainage are under consideration.	3
37.9	40.1	38.9	5,736	98,011	All obstructions formerly caused by the Western Jumna Canal have been removed and very little remains to be done in this district.	11 to 70	None ... ..	Conservancy arrangements with regard to removal of filth not good.	All the drainage lines in this district have been cleared by the Public Works Department, Irrigation Branch.	4
39.1	41.7	40.3	335	12,049	There are some obstructions to drainage in many parts of the district.	10 to 140	Well water obtainable but not good, and somewhat brackish.	Main drains cannot be flushed and are very unsatisfactory in consequence.	Regarding the obstruction to drainage remedial measures are under contemplation in the Public Works Department, Irrigation Branch.	5
41.3	43.5	42.3	335	10,706	Liable to floods in places ...	6 to 52	Well water liable to contamination.	No village conservancy ... ..	... ..	6
24.2	28.0	25.6	117	33,285	In this district drainage is not obstructed in any way.	Information not available.	None ... ..	No village conservancy ... ..	... ..	7
33.8	34.7	34.3	...	3,747	In this mountainous district the natural drainage is perfect.	Information not available.	Water obtained from wells and baolis, and for the most part liable to pollution.	Domestic cleansing not good among the lower classes. Conservancy arrangements not satisfactory.	Attention has been paid to the village sanitation.	8
35.6	38.4	36.9	1,872	10,910	In this district there are several hill torrents which overflow during the rains, and cause an overflow in certain portions of the district. This has formed the subject of much correspondence in this department, but no feasible arrangements have yet been made to remedy these evils.	16 to 35	Several of the wells are not protected with suitable copings.	Village conservancy improving ...	The District Authorities devote much attention to the matter whenever any area is excessively flooded.	9
35.4	41.9	38.4	2,503	16,450	Country lowlying and inundated during rains in many parts.	9 to 22	Wells unprotected ..	In the whole district, except in towns or large villages, no system of conservancy of any kind in force; all the villages are extremely dirty in and filthy outside, as a rule no latrines exist in the villages; people go out for calls of nature in the fields.	.....	10
34.0	40.8	37.1	5,705	14,835	The only water-logged tract in this district is that in the neighbourhood of Machiwara in the Samrala tahsil. This is due not to interception of drainage but to percolation from the main line of the Sirhind Canal.	12 to 36	Water obtained from wells brackish and parapets defective.	.....	Every effort has been made by all concerned to remedy the evil of water-logging and Rs. 40,000 were spent on a drainage scheme in connection with it.	11
31.3	33.8	32.4	4,648	9,326	The drainage of this district is, on the whole, satisfactory.	12 to 150	Wells and tanks in many cases liable to pollution.	Primitive ... ..	Rs. 150 were spent by the District Board in cleaning and repairing wells.	12



1	2	3	4	5			6		7			8	9									
No.	NAMES OF DISTRICTS.	Area in square miles.	Average population per square mile.	POPULATION (CENSUS 1901).			BIRTHS.		NUMBER OF DEATHS REGISTERED.			Number of deaths of males to every 100 deaths of females.	DEATHS PER 1,000 OF POPULATION FROM									
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Injuries.	All other causes.	Males.	Females.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Lahore Division.																						
13	Mooltan ... ..	6,070	102	339,668	281,191	620,859	30,138	48.5	10,464	10,350	20,814	101.1	...	0.3	23.0	0.9	0.5	8.8	30.8	36.8	33.5	
14	Jhang ... ..	5,871	74	233,579	203,242	436,821	25,139	57.5	9,093	8,541	17,634	106.5	...	1.0	26.6	0.5	0.6	11.7	38.9	42.0	40.4	
15	Montgomery ...	5,754	87	269,569	229,880	499,449	20,056	40.2	5,975	5,563	11,538	107.4	...	1.0	11.1	0.4	0.3	10.4	22.2	24.2	23.1	
16	Lahore ... ..	3,678	287	579,116	476,503	1,055,619	47,517	45.0	14,459	13,830	28,289	104.5	0.002	1.1	15.2	0.5	0.4	9.6	25.0	29.0	26.8	
17	Amritsar ... ..	1,601	619	541,932	449,058	990,990	47,006	47.4	13,875	14,133	28,008	98.2	...	1.2	15.0	0.6	0.3	11.2	25.6	31.5	28.3	
18	Gurdáspur ...	1,889	409	511,129	429,656	940,785	41,398	44.0	12,311	11,182	23,493	110.1	0.006	0.6	13.8	0.9	0.3	9.4	24.1	26.0	25.0	
Rawalpindi Division.																						
19	Siálkot ... ..	1,991	552	584,638	514,074	1,098,712	52,566	47.8	14,248	13,131	27,379	108.5	...	1.0	14.7	0.7	0.2	8.3	24.4	25.5	24.9	
20	Gujrát ... ..	2,051	371	400,485	360,338	760,823	27,126	35.7	8,965	7,686	16,651	116.6	...	0.1	14.8	0.3	0.2	6.5	22.4	21.3	21.9	
21	Gujránwála ...	3,017	229	378,972	311,089	690,061	36,722	53.2	9,860	9,384	19,244	105.1	...	0.1	19.5	0.2	0.6	7.5	26.0	30.2	27.9	
22	Shahpur ... ..	4,840	102	258,118	235,417	493,535	20,293	41.1	8,066	7,707	15,773	104.7	...	0.6	21.7	0.8	0.5	8.5	31.3	32.7	32.0	
23	Jhelum ... ..	3,995	152	315,011	290,768	605,779	22,119	36.5	9,672	9,463	19,135	102.2	...	1.1	22.7	0.4	0.4	6.9	30.7	32.6	31.0	
24	Rawalpindi ...	4,844	175	447,540	397,710	845,250	31,288	37.0	14,063	13,595	27,658	103.4	0.02	1.3	23.0	0.2	0.4	7.6	31.4	34.2	32.7	

10			11	12	13				14	15
MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.			Net receipt of each district from conservancy.	Net expenditure in each district on conservancy.	PRINCIPAL SANITARY DEFECTS OF DISTRICT.				Measures taken for sanitary improvement of district.	No.
Males.	Females.	Total.			a		b	c		
					In drainage.	The average distance of the subsoil water from the surface of the ground (feet).	In water-supply.	In domestic cleansing and conservancy.		
23	24	25	26	27	28	29	30	31	32	33
			Rs.	Rs.						
33.7	35.0	34.3	6,058	28,506	There are no areas or tracts of land in this district subject to overflowing or swamping, but the land near the river is subject to floods.	12 to 58	None ... ..	No conservancy rules are observed in villages.	.....	13
30.9	31.0	31.0	3,380	9,202	There are two tracts in this district in which the water accumulates in the rainy season, and the tracts are rendered unhealthy.	14 to 150	Wells more or less are liable to pollution, and in many instances brackish.	There is not much domestic cleansing or conservancy in villages in this district; fortunately in ordinary years when the rainfall is scanty the want of conservancy is not so injurious in a dry district as it would be in places where the rainfall is excessive. Sherkot and Ahmadpur are the only villages provided with drains, but at the latter village the land is subject to floods in the rainy season.	Drainage schemes for these tracts are under consideration.	14
31.8	32.3	32.0	320	3,365	Natural drainage in this district ...	25 to 78	Nil ... ..	Little attention is paid to domestic cleansing and conservancy.	Fifteen drinking wells were cleaned out during the year.	15
35.4	37.8	36.5	10,000	77,578	There are only one or two places in this district which are swampy, otherwise the drainage is natural. Drainage is still very imperfect.	14 to 31	Most of the wells require copings.	Heaps of manure are found in and around the villages, and the cleanliness is quite unsatisfactory.	Measures are being taken to improve the sanitary condition of those places that are subject to swamping.	16
39.4	44.5	41.7	47,355	76,134	Several portions of the district are subject to water-logging.	7 to 34	Water obtained from wells which are liable to surface contamination.	Domestic cleanliness far from perfect, it is most primitive and objectionable.	The District Boards of Amritsar and Gurdaspur have prepared a scheme for canalising and draining the Kiran nullah and for improving the drainage generally.	17
40.0	43.0	41.3	12,400	17,258	There is a good deal of water-logging in this district due to the natural configuration of the country and the heavy rainfall supplemented in places by percolation from the Bari Doab Canal.	9 to 42	None ... ..	No conservancy arrangements ...		18
37.9	38.5	38.2	18,163	19,584	Some portions of this district are subject to swamping.	5 to 40	None ... ..	The ground and fields around the villages are made use of by the people for purposes of nature, but the people are required to go to some distance from the villages. All streets and lanes in villages, with the exception of a few in the <i>qasbs</i> or large villages, are unpaved.	Arrangements are being made from time to time by the District Authorities to rectify matters during excessive flooding.	19
27.9	27.6	27.7	1,768	5,719	No portion of this district is subject to low drainage or overflowing.	7 to 55	Water of some of the wells brackish.	Not satisfactory ... ..	Several drinking wells were cleaned out.	20
38.9	35.9	34.8	8,520	17,152	No water-logged tracts in this district.	25 to 65	.....	Heaps of dung, nightsoil and all sorts of filth are allowed to be thrown in and around villages.	About 708 wells were cleaned out.	21
31.3	30.2	30.8	2,060	7,003	A great part liable to flooding ...	8 to 66	Wells not cleaned and unprotected.	No conservancy arrangements in force.	.....	22
32.2	32.6	32.4	557	8,001	Drainage good in this district ...	20 to 39	Well mouths not sufficiently protected.	Villages contain the average amount of dirt and sewerage. No special measures have been taken or are advisable.	A few wells were repaired.	23
35.2	35.2	35.2	1,717	42,296	Some portions of this district are subject occasionally to slight overflowing. No steps seem necessary to prevent it, as the temporary <i>dhils</i> thus formed seem to store water where it is much needed for cattle.	10 to 40	None ... ..	Inhabitants remove the refuse to their fields where it is allowed to accumulate until fit for manure, when it is used as such. People attend calls of nature in adjoining lands. The internal conservancy of village sites is generally fair, but nothing is done to keep surroundings clean.	The District Board spent a total sum of Rs. 2,145 on improving wells and other sources of water-supply in the district.	24



## ANNUAL FORM

NO.	2	3	4	5			6		7			8	9									
	NAMES OF DISTRICTS.	Area in square miles.	Average population per square mile.	POPULATION (CENSUS 1891).			BIRTHS.		NUMBER OF DEATHS REGISTERED.			Number of deaths of males to every 100 deaths of females.	DEATHS PER 1,000 OF POPULATION FROM									
				Male .	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total		Cholera.	Small pox.	Typhoid.	Dysentery and diarrhoea.	Injuries.	All other causes.	All causes.			
																			Males.	Females.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
	Peshawar Division.																					
25	Hazara .	2,787	170	253,103	223,020	476,123	14,912	31.4	5,505	5,497	11,002	101.8	...	2.1	14.5	0.1	0.1	6.0	22.1	24.7	23.3	
26	Peshawar ... ..	2,444	275	361,439	317,744	679,183	20,734	30.5	9,335	7,217	15,552	115.5		0.5	18.2	0.2	0.4	3.7	23.1	22.7	22.9	
27	Kohat ... ..	2,771	69	96,577	85,910	182,487	7,512	41.2	3,176	3,001	6,177	105.8	...	1.3	25.9	0.2	0.6	5.8	32.9	34.9	33.9	
	Derajat Division.																					
28	Banna ...	3,847	96	195,514	174,458	369,972	16,331	41.1	8,114	7,805	15,919	101.0	...	3.8	32.7	0.5	0.3	5.8	41.5	44.7	43.0	
29	Dera Ismael Khan...	9,440	51	257,411	225,052	482,463	20,128	41.7	12,161	12,050	24,211	100.9	...	0.8	40.5	1.0	0.1	7.5	47.2	53.5	50.2	
30	Dera Ghazi Khan .	5,606	71	218,359	181,501	399,860	16,088	40.2	7,421	6,871	14,292	108.0	...	1.1	31.2	0.5	0.1	2.7	34.0	37.9	35.8	
31	Muzaffargarh ...	3,422	111	206,908	174,164	381,072	17,999	47.2	8,462	8,371	16,833	101.4		1.2	38.0	0.8	0.5	3.7	41.0	48.1	44.3	
	Total for the Province.	110,463	186	11,087,908	9,516,074	20,603,982	874,623	42.6	326,924	311,303	638,227	105.0	0.03	0.8	20.6	0.8	0.4	8.5	29.6	32.7	31.1	

NOTE.—Those born dead are not to be included

No. II—concluded.

10			11	12	13				14	15
MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.			Not receipt of each district from conservancy.	Not expenditure in each district on conservancy.	PRINCIPAL SANITARY EFFECTS OF DISTRICT.				Measures taken for sanitary improvement of district.	No.
Males.	Females.	Total.			a		b	c		
					In drainage.	The average distance of the sub-surface water from the surface of the ground (feet).	In water-supply.	In domestic cleansing and conservancy.		
23	24	25	26	27	28	29	30	31	32	33
			Rs.	Rs.						
27.4	20.0	28.1	512	5,506	Throughout this district drainage is greatly facilitated by the natural fall of the ground.	125	None . . . .	No system of conservancy in use . .	Fouring of neighbourhood of villages and of water-supply provided to some extent.	25
28.1	26.4	27.3	4,480	22,701	No areas in this district are subject to swampage or overflooding.	6 to 23	None . . . .	There are no surface drains in any villages in the thanas, there is no attempt at conservancy.		2
34.7	34.8	34.7	202	4,905	There are no water logged tracts in this district.	25 to 30	Water saltish, generally from tanks.	Domestic cleansing and conservancy are unknown in the rural villages, excepting Haugra, where a small conservancy establishment keeps the village lanes and drains fairly clean, and no filth is allowed to be deposited within a certain boundary round the village.	The village sanitation is attended to by the District Board members.	27
34.6	33.1	33.4	2,525	10,354	There are no water logged areas and drainage is in no way obstructed.	11 to 94	"	"	A few wells were cleaned out and parapets supplied.	28
32.7	32.7	32.7	1,328	15,611	Drainage good and satisfactory . .	12 to 44	None . . . .	Conservancy improving . . . .	Some wells cleaned out and parapets made.	29
28.9	25.5	26.7	1,685	14,335	No water-logged tracts . .	7 to 93	Water obtained from wells which is contaminated with organic impurities.	Conservancy arrangements are not good.	An elaborate system of embankments has been erected by the Irrigation Department along a great part of the river frontage to prevent the district being swamped by inundation from the river.	30
20.6	20.9	20.7	1,139	3,582	Natural drainage of the district satisfactory. The water-logged tracts in this district are the old beds of the rivers Chenab and the Indus running for the northern half of the district parallel to these rivers and in the southern half from the Indus side to the south-east across to the Chenab bed.	7 to 15	Water supplied from wells not kept clean, liable to pollution.	No attention is paid to the domestic cleanliness in villages or smaller hamlets.	The District Authorities are paying attention to the sanitation of the district.	31
34.3	35.8	35.0	1,40,120	6,35,308						

in this or any of the other statements.

# ANNUAL FORM No. III.

DEATHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1897.

1	2	3												4	5
No	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Delhi Division.</b>															
1	Hissár . . . . .	1,680	1,244	1,544	1,871	2,402	2,619	2,046	3,051	4,379	6,044	4,770	2,000	35,150	1
2	Rohtak . . . . .	1,446	890	1,038	961	1,148	1,641	1,253	1,311	2,288	2,634	2,915	1,748	19,273	2
3	Gurgáon . . . . .	1,179	953	1,087	1,185	1,461	1,464	1,344	1,695	3,496	4,967	3,683	2,469	24,988	3
4	Delhi . . . . .	1,344	990	1,166	1,281	1,526	1,545	1,348	1,483	2,120	3,298	2,863	2,214	21,175	4
5	Karnál . . . . .	1,596	1,146	1,176	1,355	1,859	1,788	1,586	2,139	2,499	5,069	4,440	3,256	27,912	5
6	Umballa . . . . .	2,419	2,002	1,933	1,813	1,921	1,948	1,861	2,167	3,519	3,855	3,513	2,833	29,784	6
7	Simla . . . . .	91	52	48	89	52	83	50	75	68	47	54	62	771	7
<b>Jullundur Division.</b>															
8	Kángra . . . . .	2,074	1,604	1,595	1,912	1,634	1,566	1,697	1,428	1,993	2,395	1,603	2,229	21,733	8
9	Hoshiárpur . . . . .	2,280	1,717	1,866	1,850	1,996	1,591	1,453	1,765	2,501	3,049	2,487	2,401	24,959	9
10	Jullundur . . . . .	1,835	1,515	1,607	1,606	1,817	1,525	1,593	1,803	2,109	2,483	2,716	2,294	22,908	10
11	Ludhiána . . . . .	1,378	1,164	1,164	1,362	1,665	1,497	1,346	1,596	2,395	3,340	3,077	2,521	22,514	11
12	Ferozepore . . . . .	1,440	1,443	1,883	1,717	2,038	1,944	1,845	1,951	2,213	3,625	4,048	3,155	27,332	12
<b>Lahore Division.</b>															
13	Mooltan . . . . .	1,221	920	836	902	930	939	979	1,088	1,345	3,220	4,825	3,603	20,814	13
14	Jhang . . . . .	904	700	719	703	874	871	921	806	1,303	2,534	3,988	3,101	17,634	14
15	Montgomery . . . . .	792	578	623	606	772	786	776	757	839	1,338	1,906	1,758	11,538	15
16	Lahore . . . . .	2,344	1,701	1,801	1,616	2,008	1,991	1,790	1,959	2,231	3,410	3,953	3,419	28,289	16
17	Amritsar . . . . .	2,443	1,905	1,935	1,809	2,065	1,999	1,846	2,111	2,425	3,091	3,331	3,048	28,008	17
18	Gurdáspur . . . . .	1,910	1,463	1,470	1,367	1,845	1,639	1,645	1,748	2,291	2,965	2,633	2,517	23,493	18
<b>Rawalpindi Division.</b>															
19	Siálkot . . . . .	2,114	1,631	1,595	1,595	2,234	2,086	1,942	2,111	2,668	3,389	3,056	2,958	27,379	19
20	Gujrát . . . . .	1,148	1,059	1,036	1,165	1,284	1,080	1,083	1,182	1,355	1,763	2,173	2,323	16,651	20
21	Gujránwála . . . . .	1,097	942	1,110	873	1,166	1,495	1,293	1,327	1,999	1,979	3,445	2,518	19,244	21
22	Shahpur . . . . .	858	683	796	677	819	800	918	805	978	2,512	3,442	2,485	15,773	22
23	Jhelum . . . . .	1,374	1,053	992	1,080	1,043	1,091	1,080	1,051	1,293	2,483	3,656	2,939	19,135	23
24	Ráwalpindi . . . . .	2,252	1,754	1,640	1,407	1,624	1,587	1,525	1,668	2,036	3,304	4,543	4,318	27,658	24
<b>Peshawar Division.</b>															
25	Hazára . . . . .	1,323	1,014	940	691	966	986	815	722	689	867	895	1,184	11,092	25
26	Pesháwar . . . . .	1,261	1,096	936	948	1,187	1,327	1,107	752	1,018	1,557	2,537	1,826	15,552	26
27	Kohát . . . . .	450	380	333	320	315	325	300	263	388	775	1,160	1,168	6,177	27
<b>Derajat Division.</b>															
28	Bannu . . . . .	1,694	899	747	666	927	1,082	711	575	906	2,387	2,911	2,414	15,919	28
29	Dera Ismail Khan . . . . .	908	773	972	821	1,183	1,079	732	697	1,922	3,835	6,164	5,125	24,211	29
30	Dera Gházi Khan . . . . .	762	550	1,138	551	503	646	783	605	872	2,159	3,600	2,126	14,295	30
31	Muzaffargarh . . . . .	645	729	728	896	661	649	634	563	991	3,518	4,294	2,555	16,863	31
Total for the Province . . . . .		44,262	34,550	36,492	35,695	41,928	41,672	38,907	41,344	57,162	87,934	98,688	79,593	638,227	
Ratio of deaths per 1,000 in each month.		2.15	1.68	1.78	1.74	2.04	2.03	1.89	2.01	2.78	4.28	4.80	3.87	31.05	

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ANNUAL FORM No. IV.

DEATHS REGISTERED ACCORDING TO AGE IN THE DISTRICTS OF THE  
PUNJAB DURING THE YEAR 1897.

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## ANNUAL FORM

DEATHS REGISTERED ACCORDING TO AGE IN THE

1	2	3		4		5		6		7	
No.	DISTRICTS.	UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS		10 YEARS AND UNDER 15 YEARS		15 YEARS AND UNDER 20 YEARS	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12
	<b>Delhi Division.</b>										
1	Hissár ... ..	3,673	3,398	4,600	4,393	1,366	1,231	698	643	458	452
2	Rohtak ... ..	3,236	2,721	1,966	1,770	504	432	301	244	268	227
3	Gurgáon ... ..	3,627	3,074	3,141	3,061	821	678	343	318	295	288
4	Delhi ... ..	3,434	3,230	1,887	1,805	591	553	457	442	407	402
5	Karnál ... ..	4,455	4,356	2,833	2,873	639	613	340	231	297	263
6	Umballa . . .	4,488	4,555	2,045	2,164	503	485	386	326	401	307
7	Simla ... ..	89	65	24	26	7	13	8	3	10	14
	<b>Jullundur Division.</b>										
8	Kángra ... ..	3,127	2,816	885	874	400	394	365	346	310	417
9	Hoshiárpur . .	4,045	4,323	1,699	1,763	458	437	302	245	197	277
10	Jullundur ... ..	4,030	5,235	1,609	1,832	366	429	230	211	163	223
11	Ludhiána ... ..	3,969	4,361	2,466	2,531	418	381	180	217	186	169
12	Ferozepore . . .	4,506	4,853	3,923	3,933	579	561	339	356	326	288
	<b>Lahore Division.</b>										
13	Mooltan ... ..	4,131	4,083	2,073	2,339	509	433	56	41	130	133
14	Jhang ... ..	3,249	3,199	2,099	2,074	485	443	209	239	185	148
15	Montgomery . .	2,096	2,117	1,412	1,352	270	270	133	130	101	105
16	Lahore . . .	4,942	5,209	3,110	3,026	627	591	362	380	257	351
17	Amritsar ... ..	5,044	6,087	2,225	2,239	539	465	311	334	242	379
18	Gurdáspur ... ..	4,163	3,929	1,827	1,928	419	400	318	291	212	255
	<b>Rawalpindi Division</b>										
19	Siálkot ... ..	4,978	4,844	2,946	3,194	606	528	331	314	242	247
20	Gujrát ... ..	2,374	2,296	1,906	1,916	371	293	232	189	157	150
21	Gujránwála ...	3,345	3,595	2,270	2,278	445	370	223	222	181	171
22	Shahpur ... ..	2,749	2,351	2,054	2,230	430	469	179	193	105	105
23	Jhelum . . .	2,643	2,720	2,123	2,299	532	508	288	311	223	247
24	Ráwalpindi ... ..	3,820	3,688	2,669	3,042	787	773	456	466	345	374
	<b>Peshawar Division.</b>										
25	Hazára ... ..	1,519	1,402	880	900	324	325	184	174	205	222
26	Pesháwar ... ..	1,784	1,244	1,716	1,645	542	504	316	292	311	246
27	Kohát ... ..	923	753	699	784	155	154	76	67	84	75
	<b>Derajat Division.</b>										
28	Bannu ... ..	2,483	2,150	2,106	2,363	604	537	261	232	194	193
29	Dera Ismail Khan ...	3,629	3,504	3,992	4,248	716	622	246	197	226	283
30	Dera Gházi Khan ...	2,159	1,905	1,797	1,933	566	464	247	213	134	128
31	Muzaffargarh ... ..	2,938	2,861	2,121	2,371	350	328	207	192	158	123
	<b>Total for the Province...</b>	101,648	100,929	67,103	69,206	15,929	14,684	8,874	8,112	7,010	7,282
	<b>Ratio per 1,000 living ...</b>	223.02	228.02	58.42	66.76	10.01	10.81	6.86	8.59	7.47	9.63

## No. IV.

DISTRICTS OF THE PUNJAB DURING THE YEAR 1897.

8		9		10		11		12		13		14
20 YEARS AND UNDER 30 YEARS		30 YEARS AND UNDER 40 YEARS		40 YEARS AND UNDER 50 YEARS		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		No.
Males	Females.	Males	Females.	Males.	Females	Males	Females	Males.	Females	Males	Females.	
13	14	15	16	17	18	19	20	21	22	23	24	25
871	972	813	824	988	822	1,263	887	3,578	3,220	18,308	16,842	1
495	476	398	404	515	440	714	534	1,967	1,661	10,364	8,909	2
664	602	647	706	758	713	930	914	1,787	1,601	13,013	11,975	3
659	724	708	778	751	704	761	670	1,105	1,110	10,760	10,418	4
842	958	953	933	997	774	969	801	1,951	1,781	14,276	13,636	5
1,123	1,085	1,205	1,192	1,227	938	1,214	951	2,741	2,448	15,333	14,451	6
56	49	62	41	70	40	30	16	93	55	449	322	7
938	1,242	1,022	951	1,055	770	1,006	699	2,153	1,063	11,261	10,172	8
826	860	875	839	996	675	1,070	673	2,385	2,014	12,853	12,106	9
542	546	526	557	572	444	760	529	2,211	1,893	11,009	11,899	10
459	506	414	433	515	466	646	594	1,944	1,649	11,197	11,317	11
458	571	448	485	540	424	692	496	1,945	1,604	13,756	13,576	12
478	570	498	561	548	431	550	467	1,491	1,292	10,464	10,350	13
364	378	376	399	387	291	396	365	1,253	1,005	9,093	8,541	14
193	209	214	246	254	194	309	235	993	705	5,975	5,563	15
738	790	736	678	695	516	815	527	2,157	1,762	14,450	13,830	16
764	859	752	693	757	493	859	546	2,382	2,038	13,875	14,133	17
849	884	873	790	915	675	864	580	1,871	1,450	12,311	11,182	18
697	676	679	586	706	547	812	546	2,251	1,646	14,248	13,131	19
456	413	507	386	566	372	596	391	1,800	1,280	8,965	7,686	20
397	453	460	406	436	345	529	357	1,574	1,187	9,800	9,384	21
252	309	300	318	304	277	349	319	1,344	1,136	8,066	7,707	22
531	549	543	500	559	473	590	495	1,640	1,361	9,672	9,463	23
875	964	1,174	1,153	1,010	805	854	630	2,073	1,700	14,063	13,595	24
374	490	512	622	458	461	386	306	753	595	5,595	5,497	25
476	451	523	483	596	590	757	627	1,314	1,135	8,335	7,217	26
210	190	278	280	233	208	191	157	327	333	3,176	3,001	27
325	330	385	393	399	412	471	361	886	834	8,114	7,805	28
553	678	619	578	621	452	744	711	815	777	12,161	12,050	29
350	444	370	366	376	341	408	289	1,014	791	7,421	6,874	30
421	500	469	518	394	347	435	298	999	833	8,492	8,371	31
17,256	18,728	18,339	18,102	19,198	15,440	20,970	15,361	50,797	42,859	326,924	311,808	
9-35	10-98	12-44	14-00	18-42	16-91	29-37	26-39	89-69	91-74	29-62	32-71	

## ANNUAL FORM No. V.

DEATHS REGISTERED ACCORDING TO CLASSES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1897.

1	2	3					4					5					6
No.	DISTRICTS.	POPULATION ACCORDING TO CENSUS OF 1891.					NUMBER OF DEATHS REGISTERED.					RATIO OF DEATHS PER 1,000 OF POPULATION.					No.
		Muhammadians.	Hindús.	Native Christians.	Other classes.	Total.	Muhammadians.	Hindús.	Native Christians.	Other classes.	Total.	Muhammadians.	Hindús.	Native Christians.	Other classes.	Total.	
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Delhi Divn.																	
1	Hissár ..	199,010	576,737	43	18	775,808	7,834	27,312	4	.	35,150	39 36	47 36	93 02	...	45 31	1
2	Rohtak ..	85,515	504,905	26	.	590,446	2,666	16,606	1	.	19,278	31 18	32 89	38 46	.	32 64	2
3	Gurgáon ... ..	209,931	458,845	86	1	668,863	7,729	17,252	6	1	24,988	36 82	37 60	69 77	(?)	37 36	3
4	Delhi ..	149,184	485,189	812	39	635,224	4,549	16,857	27	245	21,178	30 49	33 71	33 25	(?)	33 34	4
5	Karnál .	171,712	511,886	54	...	683,652	6,887	21,022	3	.	27,912	40 11	41 07	55 56	..	40 88	5
6	Umballa ... ..	286,514	695,477	299	1	982,291	8,654	21,122	8	.	29,784	30 20	30 37	26 76	..	30 32	6
7	Simla ..	5,527	29,664	50	5	35,246	129	637	4	1	771	23 34	21 47	80 00	200 00	21 87	7
Jullundur Divn.																	
8	Kángra ..	39,624	713,922	142	5,770	759,458	1,019	20,710	4	.	21,733	25 72	29 00	28 17	...	28 62	8
9	Hoshiárpur . .	328,668	682,870	106	.	1,011,644	7,830	17,128	1	.	24,959	23 82	25 08	9 48	...	24 67	9
10	Jullundur	408,557	482,770	20	...	891,347	10,864	12,044	...	..	22,908	26 59	24 95	..	.	25 70	10
11	Ludhiána .. ..	226,687	421,663	305	.	648,655	7,999	14,509	6	...	22,514	35 29	34 41	19 67	..	34 71	11
12	Ferozepore . .	396,499	464,988	12	5	861,499	13,066	14,266	..	...	27,332	32 95	30 68	..	...	31 73	12
Lahore Divn.																	
13	Mooltan .	500,409	120,420	30	.	620,859	17,291	3,523	..	.	20,814	34 55	29 26	..	...	33 52	13
14	Jhang . .	344,433	92,371	17	...	436,821	13,477	4,140	2	15	17,634	39 13	44 82	117 65	(?)	40 37	14
15	Montgomery ...	361,928	137,513	13	..	499,449	8,864	2,674	..	...	11,538	24 49	19 45	.	...	23 10	15
16	Lahore . ...	639,598	414,586	1,254	181	1,055,619	19,630	8,630	25	4	28,289	30 69	20 82	19 94	22 10	26 80	16
17	Amritsar ... .	452,020	538,006	959	5	990,990	12,795	15,180	33	...	28,008	28 31	28 22	34 41	..	28 26	17
18	Gurdáspur .. .	458,716	479,998	2,069	2	940,785	11,026	12,402	41	24	23,493	24 04	25 84	19 82	(?)	24 97	18
Rawalpindi Divn.																	
19	Siálkot ... ..	681,155	408,075	9,482	...	1,098,712	18,163	8,922	119	175	27,379	26 66	21 86	12 55	(?)	24 92	19
20	Gujrát . .	669,347	91,412	64	...	760,823	14,612	2,026	1	12	16,651	21 83	22 16	15 63	(?)	21 89	20
21	Gujránwála ..	475,494	212,321	2,246	...	690,061	14,760	4,462	22	.	19,244	31 04	21 02	9 80	.	27 89	21
22	Shahpur ... .	417,661	75,842	27	5	493,535	13,563	2,209	1	.	15,773	32 47	29 13	37 04	...	31 96	22
23	Jhelum . .	541,192	64,502	68	12	605,774	17,120	2,011	2	2	19,135	31 63	31 18	29 41	166 67	31 59	23
24	Ráwalpindi ..	754,069	91,137	44	9	845,259	24,838	2,713	4	103	27,658	32 94	29 77	90 91	(?)	32 72	24
Peshawar Divn.																	
25	Hazára ..	454,771	21,330	24	..	476,125	10,579	513	...	...	11,092	23 26	24 05	...	...	23 30	25
26	Pesháwar . ...	648,954	30,190	32	7	679,133	15,008	508	2	34	15,552	23 13	16 88	62 50	(?)	22 90	26
27	Kohát . .	174,281	8,204	2	...	182,487	6,024	151	...	2	6,177	34 56	18 41	.	(?)	33 85	27
Derajat Divn.																	
28	Bannu ... ..	336,186	33,778	8	...	369,972	14,465	1,454	..	...	15,919	43 03	43 05	..	...	43 03	28
29	D. I. Khan ...	418,594	63,814	48	7	482,463	21,288	2,923	...	..	24,211	50 86	45 80	...	...	50 13	29
30	D. G. Khan ...	347,620	52,211	29	...	399,860	12,271	1,953	1	70	14,295	35 30	37 41	34 48	(?)	35 75	30
31	Muzaffargarh ..	327,727	53,341	4	...	381,072	14,626	2,230	...	7	16,863	44 63	41 81	...	(?)	44 25	31
Total for the Province		11,511,578	9,017,962	18,375	6,067	20,553,982	359,626	277,589	317	695	638,227	31 24	30 78	17 25	*114 55	31 05	

\* The high death-rate is due to erroneous classification of population.

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ANNUAL FORM No. VI.

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE DISTRICTS  
AND TOWNS OF THE PUNJAB DURING THE YEAR 1897.

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## ANNUAL FORM

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE

1	2	3	4	5	6	7	8		
							INJURY		
							Suicide.		Wounding and accidents.
No.	A — RURAL CIRCLES.	Population according to census of 1891.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	Males.	Females.	
1	2	3	4	5	6	7	8	9	10
<b>Delhi Division.</b>									
1	Hissā ... ..	689,014	347	504	24,026	1,060	2	1	147
2	Rohtak ... ..	535,177	.	8	12,300	373	6	8	104
3	Gurgaon ... ..	601,382	...	218	16,143	958	17	43	195
4	Delhi ... ..	422,562	...	18	8,318	485	7	10	144
5	Karnal ... ..	618,807	* ...	505	16,982	461	9	12	204
6	Umballa .. ...	894,864	* ..	357	18,146	754	8	4	183
7	Simla ... ..	21,967	..	3	173	64	1	...	5
<b>Jullundur Division.</b>									
8	Kangra ... ..	746,609	...	14	14,594	776	12	6	241
9	Hoshiarpur .. ...	940,546	...	533	14,276	625	10	13	210
10	Jullundur ... ..	779,916	...	507	11,520	265	6	3	118
11	Ludhiāna ... ..	565,917	...	240	11,863	316	3	3	167
12	Ferozepore ... ..	810,628	..	821	15,576	594	7	7	181
<b>Lahore Division.</b>									
13	Mooltan ... ..	533,990	.	185	12,943	297	5	1	225
14	Jhang ... ..	401,003	...	438	11,070	171	..	..	167
15	Montgomery ... ..	480,278	..	471	5,311	172	1	2	96
16	Lahore ... ..	844,118	...	1,128	12,002	194	8	3	208
17	Amritsar ... ..	837,540	..	1,157	11,907	384	13	17	182
18	Gurdaspur ... ..	876,172	6	464	12,062	740	9	8	195
<b>Rawalpindi Division.</b>									
19	Siālkot ... ..	1,029,471	...	1,078	15,269	593	3	13	183
20	Gujrat ... ..	721,189	...	52	10,776	134	4	...	138
21	Gujranwāla ... ..	628,845	...	71	12,463	70	6	3	200
22	Shahpur ... ..	443,579	...	273	9,649	232	1	1	136
23	Jhelum ... ..	581,008	...	666	13,115	135	1	...	197
24	Rāwalpindi .. ...	785,089	15	1,072	18,051	53	3	...	295
<b>Peshāwar Division.</b>									
25	Hazāra ... ..	457,142	...	1,107	6,553	55	...	...	159
26	Peshāwar ... ..	616,104	.	298	11,280	74	...	...	227
27	Kohāt ... ..	168,140	...	239	4,400	5	...	...	95
<b>Derajat Division.</b>									
28	Bannu ... ..	345,087	...	1,389	11,438	98	1	2	72
29	Dera Ismail Khan ... ..	435,963	...	349	17,566	301	2	1	152
30	Dera Ghāzi Khan ... ..	356,373	...	328	11,236	51	2	2	98
31	Muzaffargarh ... ..	369,533	...	445	13,996	281	1	1	145
Total of the Districts		18,540,013	368	14,988	385,714	10,771	148	164	5,069

\* No alteration is made in the population this year, as the transfer of certain

## No. VI.

DISTRICTS AND TOWNS OF THE PUNJAB DURING THE YEAR 1897.

RATES.		9	10	11								12
		All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.								No.
				Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	Injuries.	All other causes.	From all causes.		
										For the year	Mean of previous five years.	
S n a k e-bite and killed by wild beasts.	Total.	13	14	15	16	17	18	19	20	21	22	23
21	171	4,066	30,174	0.50	0.73	34.87	1.54	0.25	5.90	43.79	31.03	1
10	128	4,777	17,586	...	0.01	22.98	0.70	0.21	6.93	32.86	30.42	2
26	281	5,167	22,767	..	0.36	26.84	1.59	0.47	8.59	37.86	32.66	3
18	179	4,982	13,982	..	0.04	19.68	1.15	0.42	11.79	33.09	37.74	4
39	264	7,010	25,222	.	0.82	27.44	0.74	0.43	11.33	40.76	39.02	5
31	226	8,095	27,578	..	0.40	20.28	0.84	0.25	9.05	30.82	42.82	6
1	7	221	468	...	0.14	7.88	2.01	0.32	10.06	21.30	23.47	7
48	307	5,597	21,288	..	0.02	19.55	1.04	0.41	7.50	25.51	34.18	8
38	271	7,220	22,925	..	0.57	15.18	0.66	0.29	7.63	24.37	36.40	9
8	135	7,312	19,739	...	0.65	14.77	0.34	0.17	9.35	25.31	38.54	10
15	188	6,501	19,108	...	0.42	20.96	0.56	0.33	11.49	33.76	36.87	11
18	213	8,460	25,664	...	1.01	19.21	0.73	0.26	10.44	31.66	32.37	12
69	300	4,141	17,866	..	0.35	24.15	0.55	0.56	7.73	33.33	33.77	13
70	237	4,470	16,386	...	1.09	27.61	0.43	0.59	11.15	40.86	30.44	14
62	161	4,894	11,009	...	0.98	11.06	0.36	0.34	10.19	22.92	31.75	15
87	306	7,689	22,009	...	1.34	15.04	0.23	0.36	9.11	26.07	35.89	16
30	242	8,893	22,583	...	1.38	14.22	0.46	0.29	10.62	26.96	40.26	17
31	243	8,122	21,637	0.007	0.53	13.77	0.85	0.28	9.27	24.69	41.15	18
44	243	8,269	25,452	...	1.05	14.83	0.58	0.24	8.03	24.72	38.06	19
19	161	4,458	15,581	...	0.07	14.94	0.19	0.22	6.18	21.60	27.31	20
158	367	4,469	17,440	..	0.11	19.82	0.11	0.58	7.11	27.73	34.92	21
60	198	3,677	14,029	.	0.62	21.75	0.52	0.45	8.29	31.63	30.13	22
46	244	4,033	18,193	...	1.15	22.57	0.23	0.42	6.94	31.31	32.20	23
49	347	5,729	25,267	0.02	1.37	22.99	0.07	0.44	7.30	32.18	35.07	24
10	169	2,646	10,530	...	2.42	14.33	0.12	0.37	5.79	23.03	27.43	25
6	233	1,966	13,851	...	0.48	18.31	0.12	0.38	3.19	22.48	25.79	26
8	103	864	5,611	...	1.42	26.17	0.03	0.61	5.14	33.37	36.25	27
11	86	1,881	14,892	.	4.03	33.15	0.28	0.25	5.45	43.15	33.46	28
25	180	3,045	21,461	...	0.80	40.34	0.69	0.41	6.98	49.23	32.37	29
37	139	632	12,386	...	0.92	31.53	0.14	0.39	1.77	34.76	25.75	30
49	196	1,262	16,180	...	1.20	37.87	0.76	0.53	3.42	43.78	29.21	31
1,144	6,525	150,548	568,864	0.02	0.81	20.80	0.58	0.35	8.12	30.68	34.72	32

towns and thánas from Umballa to Karnál district took place only in October.

## ANNUAL FORM

## DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE

1	2	3	4	5	6	7	8		
No.	B.—Towns.	Population according to Census of 1891.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	INJURIES		
							Suicide.		Wounding and accidents.
							Males.	Females.	
1	2	3	4	5	6	7	8	9	10
<b>Hissar District.</b>									
1	Hissar ... ..	10,854	67	4	578	88	...	...	5
2	Hānsi ... ..	15,190	40	4	267	67	...	...	5
3	Bhiwāni ... ..	35,487	84	67	875	261	...	...	4
4	Sirsa ... ..	16,415	...	31	654	93	...	...	1
5	Fatehabad ... ..	2,548	...	16	155	2	...	...	...
<b>Rohtak District.</b>									
6	Rohtak ... ..	10,191	...	2	210	51	1	...	7
7	Jhajjar ... ..	11,881	...	...	182	29	...	...	...
8	Beri ... ..	9,825	...	1	200	31	...	1	...
9	Gohāna ... ..	7,690	...	2	124	22	...	...	1
10	Bahādurgarh ... ..	6,103	...	1	104	12	3	...	3
11	Kharkhauda ... ..	3,579	...	1	40	...	...	...	1
<b>Gurgaon District.</b>									
12	Rewāri ... ..	27,034	61	32	293	159	...	1	5
13	Palwal ... ..	11,227	...	1	385	48	...	1	...
14	Farrukhnagar ... ..	5,881	...	...	108	31	...	...	1
15	Firozpur ... ..	6,848	...	3	122	32	...	...	1
16	Sohna ... ..	5,990	...	...	121	12	...	...	...
17	Hodal ... ..	9,601	...	...	117	26	...	1	3
<b>Delhi District.</b>									
18	Delhi ... ..	180,648	...	66	3,721	270	4	1	38
19	Sonepat ... ..	12,611	...	3	193	27	...	...	2
20	Balabgarh ... ..	4,474	...	1	89	57	...	...	...
21	Faridabad ... ..	5,929	...	...	117	35	...	...	...
<b>Karnal District.</b>									
22	Karnāl ... ..	21,530	...	1	400	104	...	1	11
23	Kaithal ... ..	15,768	...	45	322	62	...	...	6
24	Pānīpat ... ..	27,547	...	4	451	102	1	1	13
	Lādwa ... ..	...	...	...	15	1	...	...	...
	Shahabad ... ..	...	...	...	62	4	...	...	...
	Thānesar ... ..	...	...	...	37	4	...	...	1
<b>Umballa District.</b>									
25	Umballa ... ..	26,856	...	1	277	113	1	...	10
26	Jagadbrī ... ..	13,029	...	18	250	54	1	...	5
27	Buriya ... ..	6,809	...	...	152	16	...	...	2
28	Lādwa ... ..	4,011	...	...	30	7	...	...	1
29	Shahabad ... ..	11,473	...	1	113	14	...	...	3
30	Thānesar ... ..	6,111	...	...	54	7	...	...	...
31	Sadhaura ... ..	10,445	...	...	143	12	...	...	3
32	Rupar ... ..	8,693	...	1	81	32	1	...	3
<b>Simla District.</b>									
33	Simla ... ..	13,279	...	2	166	7	...	...	6
<b>Kangra District.</b>									
34	Kāngra ... ..	5,234	...	...	77	28	...	...	5
35	Dharmśāla ... ..	2,778	...	...	38	23	...	...	4
36	Nūrpur ... ..	4,837	...	...	85	15	...	...	...
<b>Hoshiarpur District.</b>									
37	Hoshiārpur ... ..	17,546	...	21	256	99	1	...	5
38	Khānpur ... ..	3,553	...	2	58	26	...	...	1
39	Hariāna ... ..	7,066	...	21	56	27	...	...	...
40	Ghardiwāla ... ..	4,045	...	1	35	8	1	...	1
41	Dasuah ... ..	7,047	...	3	98	16	...	...	1
42	Tānda ... ..	11,632	...	5	192	21	...	...	4
43	Mīāni ... ..	6,649	...	1	73	5	...	...	1
44	Mukerīān ... ..	3,977	...	...	60	14	...	1	1
45	Una ... ..	4,483	...	1	47	19	...	1	1
46	Anandpur ... ..	5,100	...	...	70	38	...	...	1

NOTE.—The municipal towns of Ladwa, Shahabad and Thānesar were transferred in October from the district of Umballa to that of Karnāl.

## No. VI—continued.

## DISTRICTS AND TOWNS OF THE PUNJAB DURING THE YEAR 1897.

		9	10		11								12	
		RATIO OF DEATHS PER 1,000 OF POPULATION.												
Snake-bite and killed by wild beasts.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Injuries.	All other causes.	From all causes.		No.		
										For the year.	Mean of previous five years.			
11	12	13	14	15	16	17	18	19	20	21	22	23		
2	7	391	1,135	3.98	0.24	34.29	5.22	0.42	23.20	67.34	45.70	1		
...	5	193	578	2.63	0.26	17.58	4.41	0.33	12.84	38.05	35.83	2		
...	4	721	2,012	2.37	1.89	24.66	7.35	0.11	20.32	56.70	41.24	3		
...	1	273	1,052	...	1.89	39.81	5.67	0.06	16.63	64.09	39.60	4		
...	...	26	199	...	5.62	54.42	0.70	...	9.13	69.87	41.50	5		
2	10	226	409	...	0.12	12.97	3.15	0.62	13.96	30.82	34.93	6		
...	...	154	365	...	...	15.32	2.44	...	12.96	30.72	31.88	7		
...	1	140	373	...	0.10	20.36	3.16	0.10	14.25	37.96	32.35	8		
...	1	76	225	...	0.26	16.12	2.86	0.13	9.88	29.26	36.10	9		
...	6	41	164	...	0.16	17.04	1.97	0.98	6.72	26.87	37.92	10		
...	1	19	61	...	0.37	14.90	...	0.37	7.08	22.73	29.95	11		
...	6	286	837	2.18	1.15	10.49	5.69	0.21	10.24	29.96	34.50	12		
...	1	122	557	...	0.09	34.29	4.23	0.09	10.87	49.61	41.36	13		
...	1	42	182	...	...	18.36	5.27	0.17	7.14	30.95	35.64	14		
...	2	79	238	...	0.44	17.82	4.67	0.29	11.54	34.75	38.76	15		
...	...	41	174	...	...	20.20	2.00	...	6.84	29.05	39.17	16		
...	4	86	233	...	...	12.19	2.71	0.42	8.96	24.27	25.33	17		
2	45	2,413	6,515	...	0.35	19.62	1.42	0.24	12.72	34.35	41.34	18		
2	4	86	313	...	0.24	15.30	2.14	0.32	6.82	24.82	44.12	19		
...	...	46	193	...	0.22	19.89	12.74	...	10.28	43.14	38.71	20		
...	...	23	175	...	...	19.73	5.90	...	3.88	29.52	36.73	21		
...	12	282	799	...	0.05	18.58	4.83	0.53	13.10	37.11	44.97	22		
...	6	253	688	...	2.85	20.42	3.93	0.38	16.05	43.63	49.33	23		
...	15	453	1,025	...	0.15	16.37	3.70	0.54	16.44	37.21	39.05	24		
...	...	20	36	...	...	14.96	1.00	...	19.95	35.00	...	...		
...	...	29	95	...	...	21.62	1.39	...	10.11	33.12	...	...		
...	1	5	47	...	...	24.22	2.62	0.65	3.27	30.76	...	...		
1	12	352	755	...	0.04	10.31	4.21	0.45	13.11	28.11	39.17	25		
1	7	171	500	...	1.88	19.19	4.14	0.54	13.12	38.38	43.41	26		
...	2	44	214	...	...	22.32	2.85	0.29	6.46	31.43	34.04	27		
...	1	40	78	...	...	9.97	2.33	0.33	13.30	25.93	49.96	28		
...	3	49	180	...	0.12	13.13	1.63	0.35	5.69	20.92	32.70	29		
...	...	23	84	...	...	11.78	1.53	...	5.02	18.33	33.94	30		
...	4	56	215	...	...	13.69	1.15	0.38	5.36	20.58	31.48	31		
1	5	61	180	...	0.12	9.32	3.68	0.58	7.02	20.71	32.23	32		
...	6	122	303	...	0.15	12.50	0.53	0.45	9.19	22.82	29.10	33		
1	6	65	176	...	...	14.71	5.35	1.15	12.42	33.63	38.63	34		
...	4	56	121	...	...	13.68	8.28	1.44	20.16	43.56	34.77	35		
...	...	48	148	...	...	17.57	3.10	...	9.92	30.60	40.73	36		
...	6	247	629	...	1.20	14.59	5.64	0.34	14.08	35.85	46.56	37		
...	1	47	134	...	0.56	16.32	7.82	0.28	13.23	37.71	46.06	38		
...	...	67	171	...	2.97	7.93	3.82	...	9.48	24.20	43.76	39		
...	2	35	81	...	0.25	8.65	1.98	0.49	8.65	20.02	32.14	40		
...	1	53	171	...	0.43	13.91	2.27	0.14	7.52	24.27	45.78	41		
...	4	68	290	...	0.43	16.51	1.81	0.34	5.85	24.93	52.89	42		
...	1	25	105	...	0.15	10.98	0.75	0.15	3.76	15.79	37.18	43		
...	2	66	142	...	...	15.09	3.52	0.50	16.60	35.71	57.88	44		
...	2	58	127	...	0.22	10.48	4.24	0.45	12.94	28.33	34.17	45		
...	1	75	184	...	...	13.73	7.45	0.20	14.71	36.08	40.84	46		

The deaths and death-rates of these towns in the Umballa district are for nine months and in the Karnal district for three months.